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Final Technical Report
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RELIABILITY/MAINTAINABILITY STUDY FOR TACTICAL GROUND ELECTRONIC SHELTERS

IIT Research Institute

Donald W. Fulton

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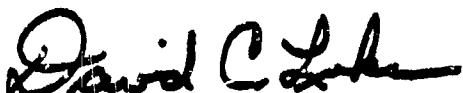
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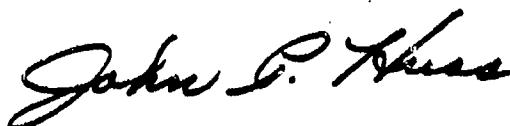
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the number and nature of failures. The lack of adequate field maintenance was found to be resulting in expensive depot repair.

The data revealed that two percent of the foam and beam shelters and 17.6 percent of the honeycomb shelters were unserviceable and require depot rehabilitation. The report contains frequency of occurrence summaries for the major degradation/damage events observed.

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EVALUATION

1. The primary objectives of this study, performed as part of RADC's TPO No. 5 Equipment/System Reliability and Maintainability, were to:
 - a. Establish a Reliability/Maintainability (R/M) data base on tactical shelters.
 - b. Determine, from the data collected, the feasibility of developing a mathematical model for shelter reliability.
2. A technical data base on tactical shelters was established and is included in this report. Due to financial restrictions, the study was limited to CONUS shelters only.

The study concludes that because of non-existing maintenance data, exact mathematical reasoning could not be applied to develop a mathematical model for shelter reliability. Consequently, the report describes the "condition" of 367 foam and beam shelters and 85 honeycomb shelters, as it applies to service life and consequently, availability. The data base indicates the existence of failures, to some degree, in a number of shelters evaluated. However, the term "serviceable" as considered in the study is the capability of the shelters to perform their purpose adequately, for the period of time intended, under the operating conditions encountered. This sample represents approximately one percent of all foam and beam shelters and approximately three percent of all paper honeycomb shelters in the worldwide population.

3. This report provides valuable information for guidance to technical organizations, such as the Joint Committee on Tactical Shelters and the Joint Logistics Commander's panel on shelter acquisition and support, who are currently making decisions which will influence all future shelter R&M and procurement. The initial data base shows:
 - a. Foam and beam shelters are generally in better condition than honeycomb shelters.
 - b. Fram and beam shelters have lasted ten years, but the amount of maintenance needed to accomplish this service life is unknown.
 - c. Of the 85 honeycomb shelters where a known maintenance data base could be established, 23 required complete replacement and 15 are not considered serviceable.

The results of this study demonstrate the importance of R/M as a means of providing correct information to those seeking solutions to existing shelter problems. The data presented suggests several avenues to achieve a higher degree of reliability in future procurements. Significant improvements in shelter reliability can be gained in a relatively short period of time if the recommendations set forth are pursued.

4. The present data base is an excellent beginning but further development is needed for the following reasons:

a. The conditions and uses of shelters outside CONUS are considerably different from the sample and data samples from that population should be investigated.

b. Before reliability predictions can be made, basic failure history must be obtained to determine average life expectancy, failure rates, failure distributions, and the effects of maintenance actions.

5. Further R&D efforts aimed toward failure analysis and product improvement are also recommended.



JOHN J. GUBA
Project Engineer

SUMMARY

This report describes the results of a nine-month program conducted by the IIT Research Institute (IITRI)-operated Reliability Analysis Center (RAC) to develop and analyze a data base containing reliability and maintainability data pertaining to lightweight tactical electronic equipment shelters.

Through field survey activity, data were collected on 367 foam and beam construction shelters and 85 honeycomb construction shelters deployed in the continental United States. All shelters and their important features were given a numerical rating on a scale of 1 to 7. This scale covers the condition from unserviceable to like new. The features rated, in addition to overall condition, included delamination, moisture intrusion, seal condition, human induced damage, fork lift damage, and rivenut deficiencies.

The data when analyzed revealed that less than 2 percent of the foam and beam shelters and 17.6 percent of the honeycomb shelters were in need of depot rehabilitation. The distribution of the overall condition rating is given in Figures 1 and 4 on pages 17 and 30, respectively. Tables 4 and 9 on pages 20 and 31 show that delamination has the highest frequency of occurrence of all the defects, no correlation was found between delamination, moisture intrusion, and seal deficiency. Fork lift damage was found to be far less prevalent than the survey team had been led to believe, occurring on only 3.5 percent of the foam and beam shelters and not at all on honeycomb shelters.

The calculation of a reliability statistic was not possible due to the lack of maintenance records from which the number of shelter failures and their frequency distribution could be determined.

A structured maintenance capability at the field level was found to be nonexistent. Thus, minor damage in the form of small punctures, paint loss, rusted rivenut threads, etc. gives rise to more serious problems and expense in terms of later depot repair.

IITRI/RAC recommends the following:

1. Expand the data base to include shelters operational in the European and Pacific theaters where the conditions of climate, employment, and maintenance are significantly different from those in the continental United States.
2. Establish a record card as a part of each shelter to contain a history of all degradation, damage events, and maintenance action. This history card would provide data necessary for the estimation of reliability and attainment of service life statistics.
3. Develop a structured field maintenance capability.
4. Develop definitions of relevant and nonrelevant shelter failures.
5. Fund the development of a computerized shelter data base management system.

PREFACE

This final report was prepared by the IIT Research Institute (IITRI)-operated Reliability Analysis Center (RAC) for the Rome Air Development Center (RADC), Griffiss Air Force Base, NY, under contract F30602-78-C-0281, Supplement Agreement P00005. The purpose of the study was to develop and analyze a lightweight tactical electronic shelter reliability data base.

The contract supplemental agreement was issued in May, 1979, by the Rome Air Development Center. Mr. John Guba (RBES) was the RADC Project Engineer. The period of contract performance was May 1979 to January 1980.

The members of the IITRI/RAC study team who assisted in the acquisition and analysis of the data were Messrs. D. Fulton, I. Krulac, R. Arno, J. Carey, and R. Pagano.

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1.0 INTRODUCTION

Lightweight shelters are employed by the Air Force, the Army, and, to a lesser extent, the Navy to house electronic equipment where the mission requirements are of a tactical nature. While the reliability of the electronic equipment is well known, little factual reliability or maintainability information pertaining to the shelters themselves has been available.

The primary purpose of this study was to develop a reliability and maintainability data base for lightweight tactical electronic equipment shelters and to analyze the data base for reliability and maintainability factors.

2.0 DATA COLLECTION

The data collection task, conducted over a six month period, has resulted in a data base containing information regarding the condition of 452 shelters representing a cross section of shelter types and construction methods. The method of data collection was such that the sample of 452 shelters is considered to be representative of the types and conditions of the total population of shelters deployed within the continental United States. Any attempt, however, to project the findings based on this sample to other global areas would be speculative due to differences in climate, usage, and maintenance.

Prior to the initiation of the shelter evaluation data collection activities, members of the evaluation team visited shelter manufacturers, military activities engaged in shelter research and development, and military repair depots. Table 1 provides the identities of the contacts.

TABLE 1
INFORMATION CONTACTS

BRUNSWICK CORPORATION Marion, Virginia
CERCOM Fort Monmouth, New Jersey
CRAIG SYSTEMS Lawrence, Massachusetts
GICHINEN MOBILE SYSTEMS Dallastown, Pennsylvania
SACRAMENTO AIR LOGISTICS CENTER McClellan AFB, California
SACRAMENTO ARMY DEPOT Sacramento, California
TOBYHANNA ARMY DEPOT Tobyhanna, Pennsylvania
U.S. ARMY NATICK LABS Natick, Massachusetts

The primary purpose of these visits was to educate the project personnel regarding past and present methods of shelter construction, types of shelter problems and causes to be expected in the field, and lessons learned from past problems. The visits also provided many valuable inputs which influenced the planning and conduct of the field survey activities.

Prior to the above visits a draft of a proposed form to be used to record shelter information during the shelter survey task was prepared. Comments regarding this form were solicited at each visit. It is interesting to note that, with the exception of the numerical rating system, the form was almost identical to one used by personnel of the Army's CERCOM a number of years earlier.

The shelter survey form used in the field survey/data collection task with the guidelines and instructions for use are presented in Appendix A. As indicated on the form, a rating on a scale of 1 through 7 was given for each shelter element where 1 represents a totally unserviceable condition and 7 represents the condition to be found in a new shelter while the intermediate ratings represent increasing degrees of damage or degradation severity. The overall shelter rating is not the average of the individual element ratings. Rather, it is an independent rating which weights the significance of the condition of each element in terms of overall shelter serviceability.

Selection of Survey Sites

Two factors were considered in the selection of sites. First was the quantity and types of shelters and their availability for inspection. Second was the location of the site with respect to other sites. In most cases, no site had more shelters than could be surveyed by a three-man team in two days. Therefore, in the interests of efficient use of limited travel funds, transportation costs and travel time could be minimized by selecting two sites relatively close to each other. Examples of such sites were Shaw AFB/Fort Bragg and Kelly AFB/Bergstrom AFB. The sites selected and the number of shelters evaluated at each site are given in Table 2.

TABLE 2
SURVEY SITES

Location		Number of Shelters
SHAW AFB		
62nd TRS	(Honeycomb)	26
507th TACCS	(Foam & Beam)	46
682nd DASC		
ROBINS AFB		
5th CmBTG	(Honeycomb)	4
5th CmBTG	(Foam & Beam)	35
TINKER AFB		
3rd CmBTG	(Honeycomb)	1
3rd CmBTG	(Foam & Beam)	51
BERGSTROM AFB		
67th TRW	(Honeycomb)	54
12th TRS		
91st TRS		
602nd TACCS	(Foam & Beam)	41
712th DASC		
EGLIN AFB		
728th TSC	(Foam & Beam)	52
KELLEY AFB		
HQQRS ESC	(Foam & Beam)	51
CHERRY POINT		
2nd MAW	(Foam & Beam)	16
FORT BRAGG		
CUSALAO/DR.XLA-FBG	(Foam & Beam)	26
WELLESLEY		
253rd GP & 267th SQD ANG Station	(Foam & Beam)	21
COVENTRY		
281st CGP ANG Station	(Foam & Beam)	18
GRIFFISS AFB		
McCLELLAN AFB		
	(Foam & Beam)	6
	(Foam & Beam)	4

3.0 DATA BASE

The data collected describes the condition of 367 foam and beam construction shelters and 85 honeycomb construction shelters. The total data base is presented in Appendix B. This data base represents a large sample of the total population of shelters located in the continental United States. Conclusions drawn from an analysis of this data base may not apply to other global areas due to differences in employment, environment, and maintenance.

In general, maintenance data and frequency of deployment information were not available. The lack of maintenance data precludes the estimation of a failure rate and reliability over the fielded period except for a small population of honeycomb shelters. The absence of frequency of deployment information precludes any assessment of the effects of such usage.

4.0 DATA ANALYSIS

4.1 Foam and Beam Construction Shelters

Reliability

In order to calculate the reliability of a system or a component of a system, in this case a shelter, it is necessary that relevant failures be defined, the number of failures recorded, and usage time and population size known. In the case of shelters, since the exponential distribution of failure is in doubt, the time between each failure must be known so that the appropriate failure distribution can be determined and the appropriate reliability model employed.

In reliability terms a relevant failure is a failure occurring under accepted conditions of usage which renders an item incapable of providing its intended function. For a shelter, then, a relevant failure would be loss of ability to provide protection from the environment or loss of mobility. Such a failure, in view of a minimal field maintenance capability in the Air Force, would require depot level repair. At the outset of this program it was anticipated that the dates and frequency of those events could be determined from company or depot records. This did not prove to be the case. Company records proved to be brief, at best indicating only when a system was sent to depot without any indication of the condition of the shelters. Depot shelter repair records proved to be unobtainable due to regulations which preclude the long term retention of such records. Personnel at McClellan AFB estimate an average of 300 shelters a year are processed through repair. This does not, based on the experience of this survey team, mean that there are that number of relevant failures a year. It indicates only that 300 shelters containing electronic equipment have been sent to depot. While the electronics are being rehabilitated, the shelter also goes through repair. In the main, this repair corrects damage caused by fork lifts, the filling of nonpiercing dents with body compound, and painting.

It is regrettable and most disappointing to the survey team that the number of relevant failures could not be determined and that shelter reliability as a result cannot be estimated.

Service Life

An important parameter of a shelter is the capability of attaining some stated service life. Table 3 shows the number of shelters in the data base procured each year from 1965 through 1977. Figure 1 presents the distribution of the overall shelter rating.

TABLE 3
SHELTERS PROCURED BY YEAR

Year	'65	'66	'67	'68	'69	'70	'71	'72	'73	'74	'75	'76	'77
Qty.	75		86	40	33	2	28	3	28	19	19	7	17

The majority of the shelters, 234, were procured prior to 1970, and on average have been in service for ten years. Figure 2 shows that only 2.4%, ratings 1&2, of these shelters are in a failed state and require hard rehabilitation to be returned to serviceable condition.

The 123 shelters procured from 1970 through 1977 probably have seen an average of five years' service. The distribution of overall ratings, Figure 3, for this younger population shows that none require depot maintenance and all are in a serviceable condition.

It is a certainty that maintenance has played a role in the achievement of a ten year life for the older population. However, again, the lack of maintenance data prevents determining the necessity for and dependence on maintenance in reaching ten years of service.

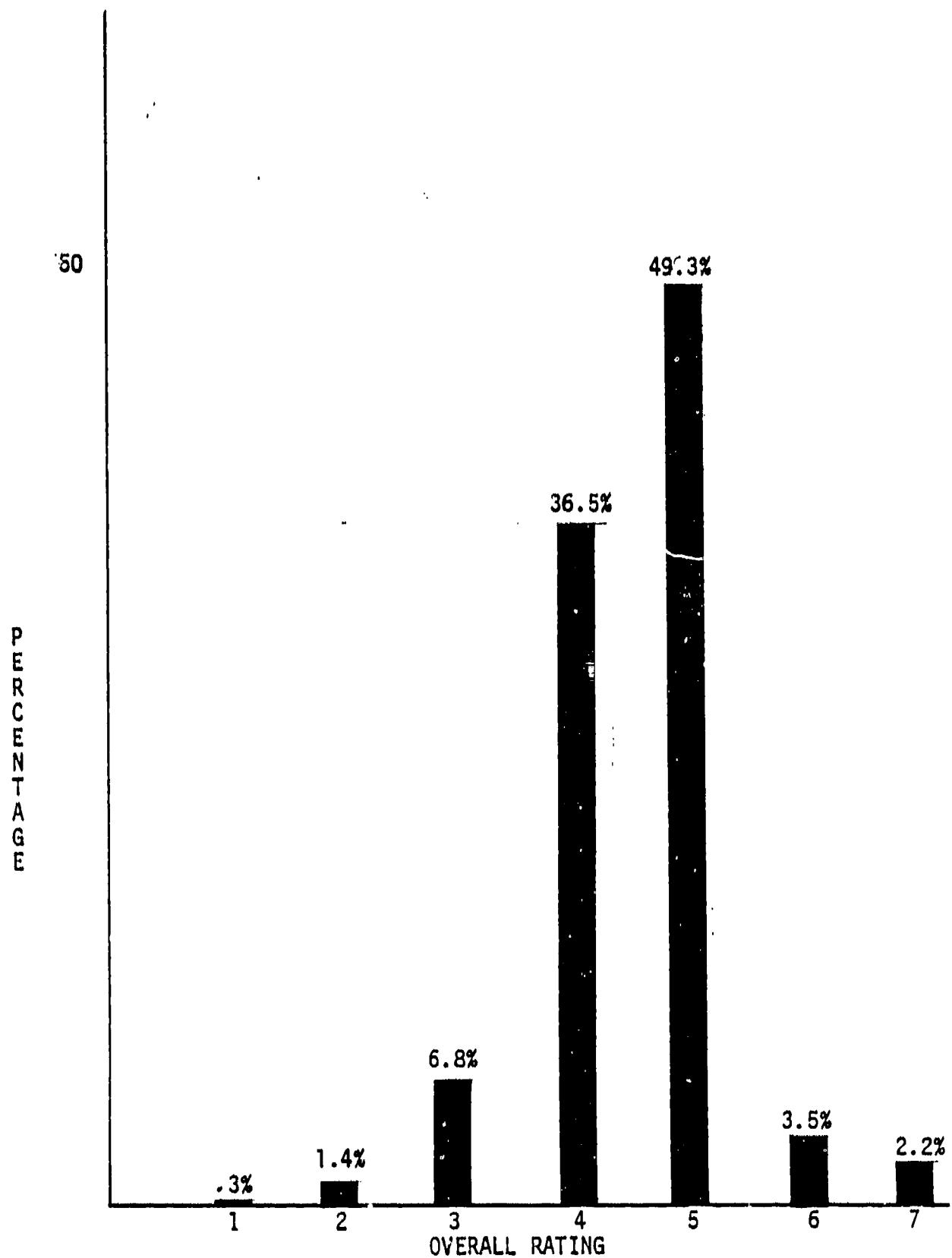


Figure 1: FOAM & BEAM
DISTRIBUTION OF OVERALL RATINGS, 357 SHELTERS.

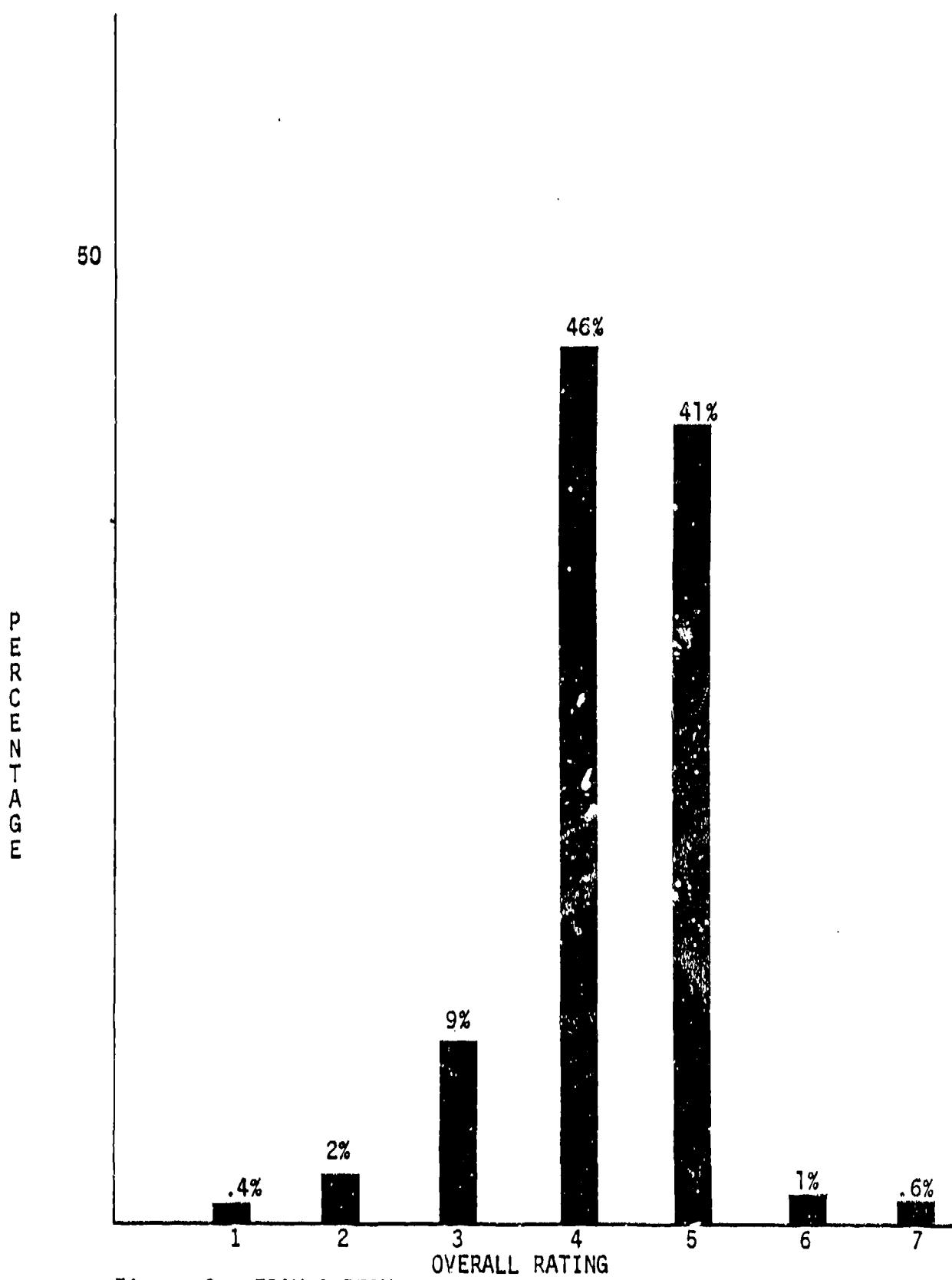


Figure 2: FOAM & BEAM

DISTRIBUTION OF OVERALL RATINGS FOR CONTRACT YEAR OF
1965 THROUGH 1969, 234 SHELTERS.

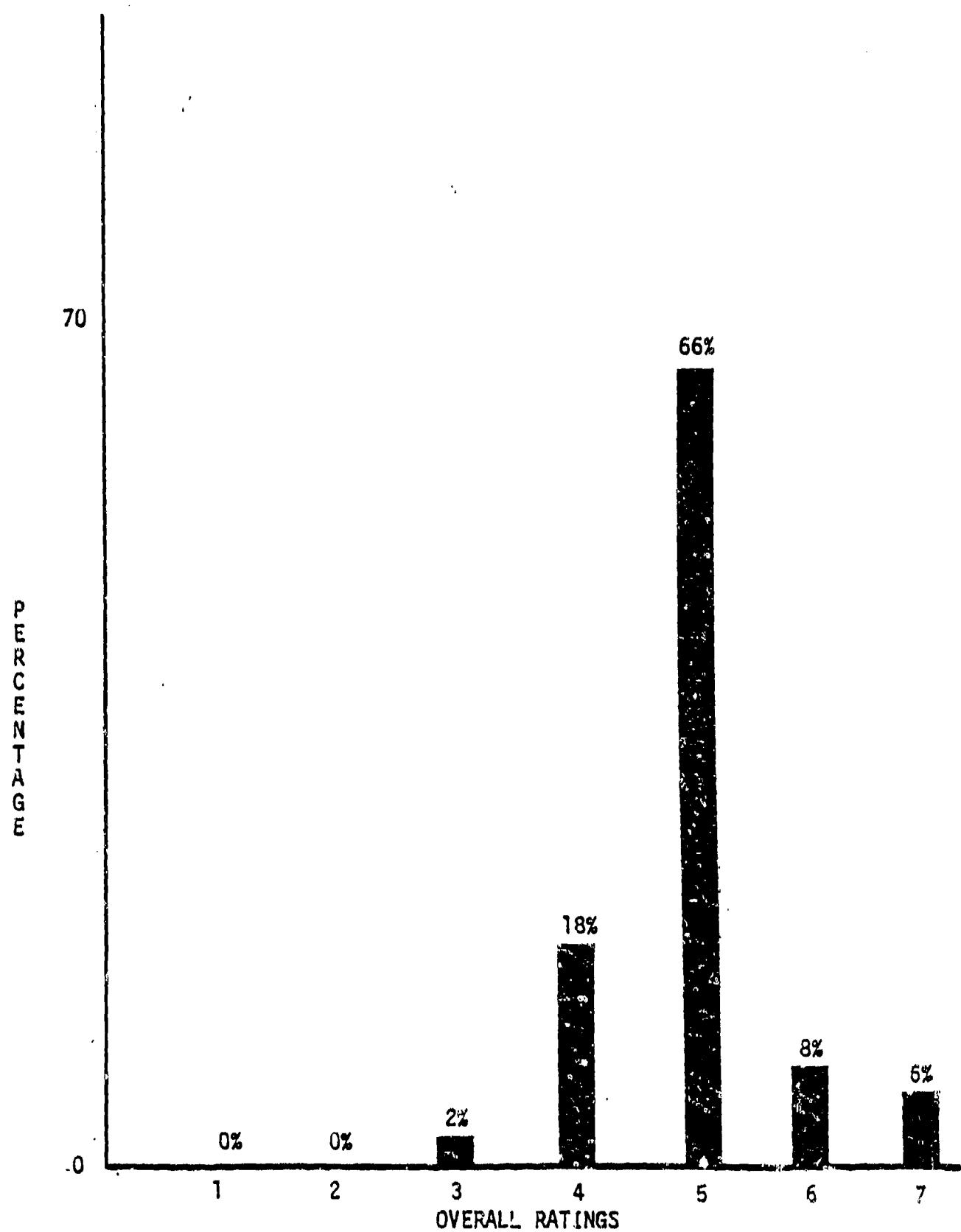


Figure 3: FOAM & BEAM
DISTRIBUTION OF OVERALL RATINGS FOR CONTRACT YEARS OF 1970
THROUGH 1977, 123 SHELTERS.

Maintenance

Company level shelter maintenance in the Air Force, as seen by the survey team, leaves much to be desired. This should not be taken as an indictment of the user organization but springs from the lack of technical repair manuals, trained personnel, repair materials, and facilities. Much dissatisfaction was voiced at the user level over these conditions.

The survey team found numerous examples of punctures, early evidence of corrosion, etc., which were amenable to field repair, given the skills, instructions, and materials required. Unrepaired for extended periods, these events lead to expensive repairs at the depot.

Analysis of Detail Characteristic Ratings

Table 4 ranks the various details rated in summarized form. It can be seen that delamination and induced damage were the most frequently seen events.

TABLE 4
GENERAL STATISTICS
Foam & Beam

NUMBER		PERCENT
367	Total Shelters	
165	Total Shelters with Delaminated Panels	45
133	Total Shelters with Induced Damage	36
57	Total Shelters with Seal Deficiency	15.5
53	Total Shelters with Moisture Intrusion	14
40	Total Shelters with Rivernut Deficiency	11
13	Total Shelters with Fork Lift Damage	3.5

The following paragraphs discuss each characteristic evaluated.

Delamination

Delamination was the most frequently seen degradation event. One hundred and sixty-five shelters had some delamination of aluminum skin from the internal foam.

Table 5 provides the frequency of occurrence by shelter nomenclature. It is of interest to note that only 20 percent of the older groups of shelters, 407L systems, have any delamination.

Table 6 provides the number of occurrences by panel. The exterior roof skin shows the largest number of exterior incidents, while the interior of the floor panel has the largest number of interior incidents.

The area of delamination as a percentage of the panel area is also presented in Table 6. The range of values is relatively small and there is no preferential panel so far as the size or characteristic of the delamination. The interior skin delamination is an exception since where delamination was noted, it appeared most frequently just inside the door. The impact of heels of personnel stepping over the sill appears to be the cause.

Induced Damage vs Fork Lift Damage

Induced damage includes damage caused by holdown chains, tree branches and limbs, and human carelessness. In this analysis, fork lift damage is evaluated versus the total of all other forms of induced damage. Referring to Table 4, 133 shelters, or 36 percent, have suffered induced damage while only 13, or 3.5 percent, have any fork lift damage. Only 4 of these 13 shelters had side wall tine damage with the remainder involving the skids or the underside of the floor panel. These findings conflict with the opinions voiced at the depots regarding a high incidence of fork lift damage. Hopefully these statistics will serve to put such damage in proper prospective.

TABLE 5
SHELTER DELAMINATION

NOMENCLATURE	QTY OF SHELTERS	NUMBER OF PANELS WITH DELAMINATION		PERCENTAGE OF SHELTERS DELAMINATED
		SINGLE PANEL	TWO OR MORE PANELS	
S-138	1	0	0	0
S-141	18	2	4	33
S-208	8	3	5	100
GMS-280	3	0	0	0
S-280	44	10	8	41
S-285	4	1	1	50
S-290	1	0	0	0
S-308	34	10	16	76
S-312	1	1	0	100
S-334	2	0	2	100
S-348	2	0	0	0
S-362	1	0	1	100
LS-373	2	0	0	0
S-380	2	0	2	100
S-385	19	5	13	95
S-386	5	0	5	100
S-395	3	0	0	0
S-409	1	1	0	100
S-414	4	1	3	100
S-423	23	5	10	65
S-426	1	0	1	100
S-437	1	1	0	100
S-448	2	1	0	50
S-449	14	6	3	64
S-450	2	0	1	50
S-456	1	1	0	100
S-458	5	1	3	80

TABLE 5 (Cont'd)
SHELTER DELAMINATION

NOMENCLATURE	QTY OF SHELTERS	NUMBER OF PANELS WITH DELAMINATION	PERCENTAGE OF SHELTERS DELAMINATED
		SINGLE PANEL TWO OR MORE PANELS	
S-470	1	0	0
S-472	3	0	100
S-473	2	0	50
S-514	20	1	5
S-515	20	0	0
S-517	20	1	5
S-520	6	3	50
S-521	7	3	71
S-522	7	3	43
S-523	7	3	43
S-537	1	0	0
S-541	1	0	100
S-544	1	0	0
S-546	3	0	0
S-556	6	3	50
S-559	1	1	100
S-567	1	0	0
S-576	1	0	0
H-585	4	0	75
S-588	2	0	0
(General 407L)	50	7	20

74 shelters have only one delaminated panel

91 shelters have two or more delaminated panels

— 165 total shelters have delaminated panels

TABLE 6
PANEL DELAMINATION

Foam & Beam

PANEL	NUMBER OF PANELS WITH DELAMINATION	AVERAGE AREA OF DELAMINATION AS A PERCENT OF PANEL AREA
ROOF		
INT	29	15
EXT	70	17
FLOOR		
INT	51	14
EXT	1	10
FRONT		
INT	21	15
EXT	25	21
REAR		
INT	6	9
EXT	5	11
CURBSIDE		
INT	14	15
EXT	41	21
ROADSIDE		
INT	19	11
EXT	53	22

Seal Deficiency

The characteristics of a deficient seal are hardening, pulling away from the sealing surfaces, and cracking. Where cracking was found, care was taken to differentiate between cracking of the sealing material and cracking of the surface paint.

Fifty-seven, or 15.5 percent, of the shelters had seal deficiencies. The roof panel exterior was most prone to such deficiencies with 25, or almost half of the total incidents.

Moisture Intrusion

Fifty-three of the shelters representing 14 percent of the population showed visible evidence of moisture intrusion. This visual evidence took the form of stains at the top, bottom, or around small punctures in the side panels. This statistic is certainly on the low side since the survey had no procedure by which hidden, i.e., not revealed by visible signs, moisture could be detected.

In only one case was it found that intruding water was affecting the installed electronic equipment. A roof panel patch had been made to a 407L shelter by the using company. Water, due to poor sealing, was entering and dripping on the electronics. The using organization did not plan on returning this shelter to depot. Rather, the depot was being requested to advise and assist in making a proper field repair.

The lack of venting of shelters may be the cause of some reported moisture problems. The survey team visited several bases when the daytime humidity and temperature were both high. Shelters examined early in the morning were found to have droplets of water condensed on the ceilings and falling on equipment. As the sun warmed the shelters, the moisture returned to vapor and no longer was evident. Venting could help reduce the build-up of high humidity and resulting condensation inside the shelters.

Delamination vs Seal Deficiencies vs Moisture Intrusion

The following analysis was undertaken to assess the possible relationship between delamination and moisture in the panels. If moisture is a major cause of delamination, a large percentage of shelters with delamination should also have seal deficiencies and evidence of moisture intrusion.

An examination of the data base reveals that only 12 percent of the delaminated shelters had seal deficiencies and 13 percent showed evidence of moisture intrusion. Taking the analysis one step farther, only 2 percent of the delaminated shelters had both seal deficiencies and evidence of moisture intrusion. This information is summarized in Table 7.

TABLE 7

DELAMINATION, MOISTURE INTRUSION AND SEAL DETERIORATION OF FOAM & BEAM

Percentage of delaminated shelters with visible evidence of moisture intrusion -	13%
Percentage of delaminated shelters with seal deterioration -	12%
Percentage of delaminated shelters having both moisture intrusion and seal deterioration -	2%

This analysis strongly suggests little correlation regarding the role of moisture as a cause of delamination. While this may be true, testing under controlled conditions is recommended as a means of proving or disproving the effect of entrapped moisture in shelter panels.

Rivenuts

Rivenut problems were found in 40 shelters, which represents 11 percent of the data base population. The problem was limited to external rivenuts serving as attachment points for leveling jacks and mobilizers. The rivenut threads had become loaded with rust and scale to the extent that it appeared impossible to insert a screw employing torque within the holding limits of the rivenut.

This is an example of a situation which could be improved by company level preventative maintenance. The use of plastic plugs, screws, or a high viscosity grease to fill the rivenuts when not in use should be encouraged.

Rivets and Spot Welds

Particular attention was paid to the condition of all rivets and spot welds. No corrosion was found around spot welds on any of the shelters. One case of rivet failure was noted where the skin had separated from a beam. Otherwise, all rivets were sound and tight.

Exterior Hardware

All external hardware was found to be in serviceable condition. An occasional side wall hand/foot hold was slightly distorted. Top corner lifting rings were in a few cases also slightly distorted. The attachments of the lifting ring assembly to the shelters were universally sound with no distortion of rivets, screws, or surrounding panels. One exception to this last statement was noted. Four assemblies on one shelter had been overloaded which had caused rivet failure and skin distortion. This was the only case where significant overloading of lift points was found.

4.2 Honeycomb Construction Shelters

The population of this type of shelter is represented in the data base by information on 85 shelters. This type of shelter was difficult to locate, with the majority based at Bergstrom AFB and Shaw AFB.

Reliability

The problems of estimating the reliability of this group of shelters are quite similar to those described for foam and beam shelter in Section 4.1 with one significant difference. Maintenance records were found to exist at Hill AFB for 79 of the data base honeycomb shelters, type 343N, which had been procured by a contract dated 1967. These records covered depot maintenance actions from 1975 through 1979. Personnel at Hill AFB immediately provided these records when contacted.

A comparison of these records with the data base revealed that 31 of the data base shelters had been processed through the depot during this period. Table 8 summarizes the maintenance actions for these 31 shelters. All of these shelters, 23 of which were completely rebuilt by replacing all panels, were returned to the field in "like new" condition. With a series of like new dates established, the data base was again examined to determine if any of these shelters were unserviceable, that is in a failed state, when surveyed. Only one of these shelters was identified as unserviceable, exhibiting extensive delamination of all panels except for the floor panel after 21 months of field service. If there had been more failures, it would have been possible to develop reliability estimates.

TABLE 8
MAINTENANCE ACTIONS
Honeycomb

No. Shelters	No. Panels Replaced
23	all
1	2
7	none

Service Life

Figure 4 presents the distribution of the overall rating for the population of 85 shelters. It can be seen that 17.6 percent or 15 of the shelters were unserviceable at the time they were inspected and required rebuilding. Adding this 15 and the 23 previously identified, it is evident that 38 shelters of the sample population have ended their service life in the past five years. This represents 45 percent of the data base population of honeycomb shelters.

Table 9 presents the dates on which the remanufacturing by replacement of all panels was completed on each of the 23 shelters and the shelters were released in "like new" condition. It is tempting to use this data in estimating a demonstrated average service life for the sample population. However, to do so would lead to a grossly over optimistic estimate for a number of reasons as follows:

1. The actual dates when each shelter became unserviceable are unknown
2. Prior remanufacturing actions on this group of 23 shelters
3. Absence of remanufacturing data for sample population for the period of 1970 to 1975.

Maintenance

The comments made in Section 4.1 regarding maintenance at the company user level apply to honeycomb shelters and need not be repeated here.

One comment needs to be made regarding field level maintenance of this type of shelter. The structural integrity of a honeycomb core shelter is dependent on the bond between the panel skins and the honeycomb core. Actions which can be taken at the field level to reduce the rate of delamination should be investigated and implemented in view of the economics of extended service life and reduced costs of depot remanufacturing.

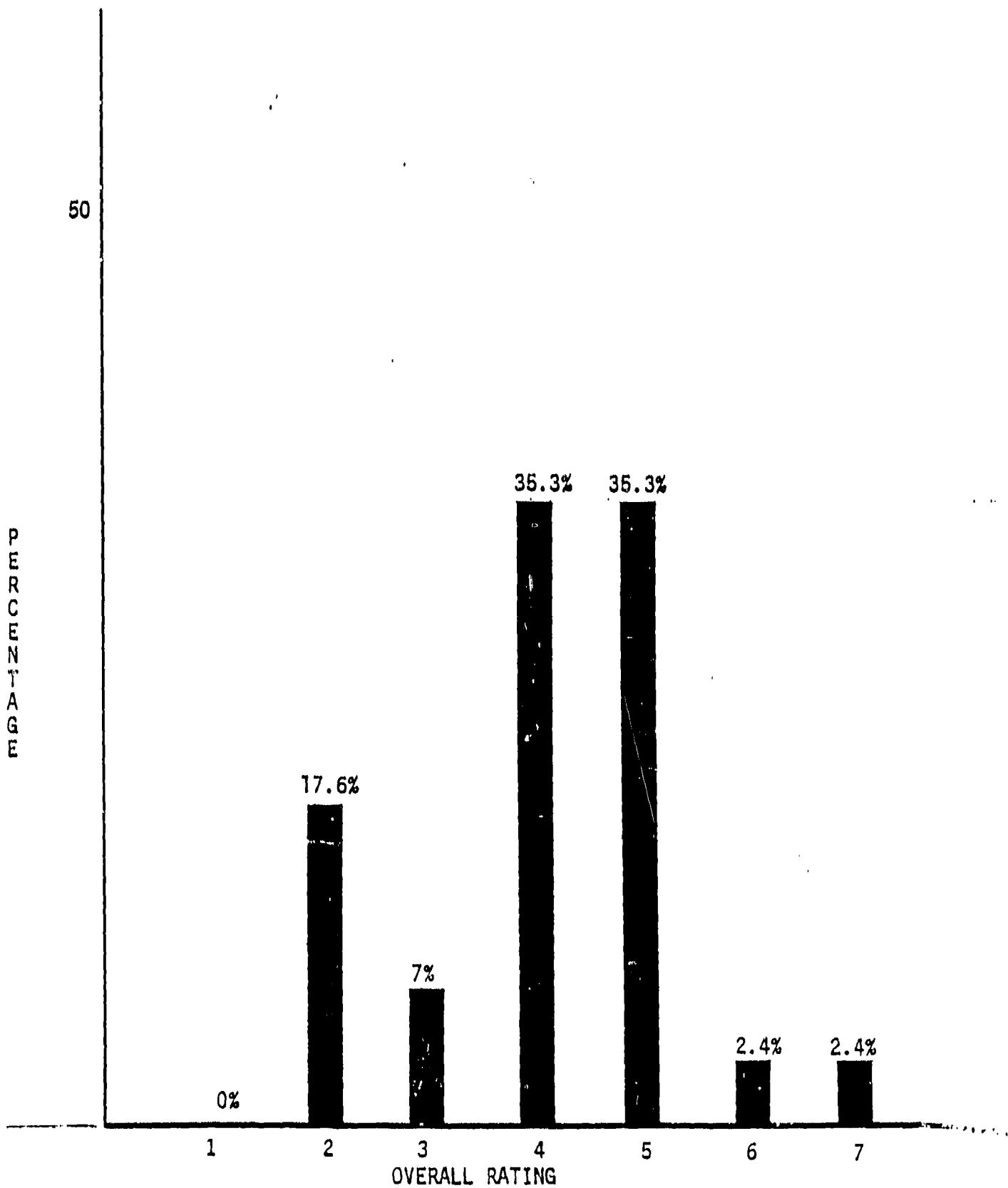


Figure 4: HONEYCOMB
DISTRIBUTION OF OVERALL RATING, 85 SHELTERS.

TABLE 9
REMANUFACTURING HISTORY
Honeycomb

SHELTER CONTROL NUMBER	DEPOT DATE
923	29 Sept 1976
984	12 Oct 1976
954	4 May 1977
921	25 July 1977
974	27 Sept 1977
910	17 Oct 1977
931	4 Nov 1977
986	8 Nov 1977
927	23 Nov 1977
929	16 Dec 1977
920	27 Jan 1978
934	27 Jan 1978
913	9 Feb 1978
949	16 Feb 1978
958	23 Feb 1978
966	28 Feb 1978
943	29 Mar 1978
969	10 May 1978
932	30 Jun 1978
925	9 Aug 1978
978	8 Jan 1979
917	31 Jan 1979
975	Apr 1979

Analysis of Detail Characteristics Ratings

Table 10 ranks the various details rated in summarized form. It should be noted that the order and magnitude of the events are similar to those given for foam and beam shelters in Table 4 except that moisture intrusion and seal deficiency appear in reversed position. It should also be noted that none of the shelters exhibit any fork lift damage.

TABLE 10
GENERAL STATISTICS
Honeycomb

NUMBER		PERCENT
85	Total Shelters	
27	Total Shelters with Delaminated Panels	32
25	Total Shelters with Induced Damage	29
11	Total Shelters with Moisture Intrusion	13
4	Total Shelters with Seal Deficiency	5
2	Total Shelters with Rivenut Deficiency	2
0	Total Shelters with Fork Lift Damage	0

Delamination

Delamination was the most frequently seen degradation event. While occurring less frequently than in foam and beam shelters, 32 percent versus 45 percent, delamination of panels is more serious here due to the load carrying characteristics of honeycomb panels which are directly related to the skin to core bond.

Table 11 provides information by shelter nomenclature regarding frequency of occurrence as well as single and multiple panel delamination.

TABLE 11
SHELTER DELAMINATION
Honeycomb

NOMENCLATURE	SHELTERS	QTY OF	NUMBER OF PANELS WITH DELAMINATION		PERCENTAGE OF SHELTERS DELAMINATED
			SINGLE PANEL	TWO OR MORE PANELS	
343N-	80		14	12	32
S-530	5		1	0	20

In Table 12 which summarizes delamination by panel and average area, the roof, curbside, and roadside panels all prove to be equal in terms of occurrence and very similar in terms of average area of delamination. The floor, rear, and front panels appear quite insensitive to this failure mechanism.

TABLE 12
PANEL DELAMINATION
Honeycomb

PANEL	NUMBER OF PANELS WITH DELAMINATION	AVERAGE AREA OF DELAMINATION AS A PERCENT OF PANEL AREA
ROOF		
INT	9	17
EXT	9	21
FLOOR		
INT	1	5
EXT	1	0
FRONT		
INT	1	15
EXT	1	40
REAR		
INT	3	18
EXT	1	10
CURBSIDE		
INT	7	14
EXT	10	23
ROADSIDE		
INT	4	14
EXT	14	18

Induced Damage

Induced damage includes damage caused by holdown chains, tree branches and limbs, and human carelessness. That absence of fork lift damage is probably due to the small sample size of this type shelter and the relatively small frequency of occurrence noted for foam and beam shelters.

The severity of induced damage noted was relatively minor and with the exception of a few small punctures did not appear to be contributing to the overall degradation of the shelters.

Moisture Intrusion

The frequency of occurrence of moisture intrusion, 13 percent, is virtually identical to foam and beam shelters. The same visible evidence as in the case of foam and beam was used in making the determination here. No cases of intruding moisture affecting installed equipment were observed.

Seal Deficiency

The condition of seals was superior to that of the foam and beam shelters. The frequency of occurrence of deterioration, 5 percent, is one third of the rate found for foam and beam.

Since only 4 of these shelters showed evidence of this defect, no conclusions can be reached regarding the most likely panels with the defect.

Delamination vs Seal Deficiencies vs Moisture Intrusion

The following analysis was undertaken to assess the possible relationship between delamination and moisture in the panels. If moisture is a major cause of delamination then a large percentage of shelters with delamination should also have seal deficiencies and evidence of moisture intrusion.

An examination of the data base reveals that only 7 percent of the delaminated shelters had seal deficiencies and 2 percent showed evidence of moisture intrusion. Taking the analysis one step farther, none of the delaminated shelters had both seal deficiencies and evidence of moisture intrusion. This information is summarized in Table 13.

TABLE 13

DELAMINATION, MOISTURE INTRUSTION AND SEAL DETERIORATION OF HONEYCOMB SHELTERS

Percentage of delaminated shelters with visible evidence of moisture intrusion -	7%
Percentage of delaminated shelters with seal deterioration -	2%
Percentage of delaminated shelters having both moisture intrusion and seal deterioration -	0%

Rivenuts

Rivenut problems were found in 2 shelters, which represents a very small percent of the data base population. The problem was limited to external rivenuts serving as attachment points for leveling jacks and mobilizers. The rivenut threads had become loaded with rust and scale to the extent that it appeared impossible to insert a screw employing torque within the holding limits of the rivenut.

This is an example of a situation which could be improved by company level preventative maintenance. The use of plastic plugs, screws, or a high viscosity grease to fill the rivenuts when not in use should be encouraged.

5.0 CONCLUSION AND RECOMMENDATIONS

It is concluded that the number of shelters evaluated in this study provide a data base which represents a significant asset to the Air Force shelter program even though the data base represents only shelters based in the continental United States. For the first time decisions can be based on factual information particularly in the R&D area where the frequency of occurrence of the significant deficiencies are now known.

The analysis of this data base could have been performed more efficiently and completely had funds been available to develop a computerized software data management package and the data entered into a computer file. The analysis of an expanded data base would be impractical by manual means. It is recommended that the data base be computerized with the necessary software made available for analysis.

It is recommended, in view of the limited geographic coverage provided by this study, that surveys be conducted of shelters employed in the European and Pacific theaters where the conditions of climate, employment, and maintenance are significantly different from those in the United States.

The questions of the reliability and achieved service life remain unanswered due to the absence of records. In this regard, it is recommended that each shelter contain a permanent record of all damage waste, deficiencies, and field or depot corrective action. These records would ultimately provide the data on which reliability and service life estimates could be based, allow analysis of field and depot maintenance, and guide technology research and development.

In reliability, the definition of failure is critical. Failure must also be categorized as relevant or nonrelevant. In the course of this study no evidence of formed definitions of operational shelter failures was found. It is recommended that action be taken to define and categorize shelter failures.

The lack of a structured field maintenance capability has been found to be a significant factor in the deterioration of a shelter to an unserviceable state and the necessity of expensive rework at the depot as well as the loss of the electronic system function for a significant period of time. The development of a field maintenance capability is strongly recommended.

APPENDIX A

Survey Forms and Guidelines

I SHELTER IDENTIFICATION

- (1) NO: _____ (2) NAME: _____
DATE: _____
- (3) LOCATION: _____
- (4) NOMENCLATURE: SHELTER _____ (9) SYS: _____
SUB SYS: _____
- (5) SERIAL NO: SHELTER _____ SYS: _____
SUB SYS: _____
- (6) MFR _____ (10) MFR _____

- (7) CONTR. NO. _____ (11) CONTR. NO. _____
- (8) DATE CODE: _____
- (12) DIMENSIONS: L. _____ W. _____ H. _____
- (13) WEIGHT: UNLOADED _____ LOADED _____
- (14) CONSTRUCTION: BEAM & FOAM _____
HONEY COMB CORE _____
WOOD & FIBER GLASS _____
OTHER _____
- (15) OVERALL CONDITION 1 2 3 4 5 6 7

- (16) COMMENTS:

DATA COLLECTION GUIDELINES

I SHELTER IDENTIFICATION (Refer to Page 40)

1. NO.:	A consecutively ordered numeric character identifying each shelter reviewed, preceded by an alpha character extracted from the first alpha character of the name of the base, installation or site visited.
2. NAME:	Name of individual preparing shelter identification sheet.
DATE:	Date of inspection.
3. LOCATION:	The name of the base, installation or site at which inspection is made.
4. NOMENCLATURE, SHELTER:	Government's designated name of a shelter series; ex: S-280. Found on name plate.
5. SERIAL NO., SHELTER:	Alpha and/or numeric characters assigned by manufacturer used for identification. Found on name plate.
6. MFR:	Manufacturer of shelter. Found on name plate.
7. CONTR. NO.:	Alpha and numeric characters identifying specified agreement between government and manufacturer for construction of shelter. Found on name plate.
8. DATE CODE:	Numeric code introduced by shelter manufacturer indicating date of construction. Usually found on name plate.
9. SYS:	Alpha and/or numeric characters indicating overall system which shelter is part of.
SUBSYS:	Alpha and/or numeric characters indicating subsystem installed into the shelter. Both found on name plate. NOTE: A second set of SYS and SUBSYS is included if more space is needed.

10. MFR: Manufacturer of system and subsystem installed into shelter. Found on name plate.
11. CONTRO. NO.: Alpha and numeric characters identifying specified agreement between government and manufacturer for construction of system found in shelter. Found on name plate.
12. DIMENSION: Exterior physical dimension of shelter. Usually found on physical data plate.
13. WEIGHT: UNLOADED, The weight of the empty shelter.
LOADED, Rated weight which the shelter can carry plus the weight of the shelter. Both found on physical data plate.
14. CONSTRUCTION: Type of construction used to build shelter; ex: Foam & Beam, Honeycomb cone, etc.
NOTE: Careful examination should reveal rivets or spot welds in foam and beam construction where skin and beams are attached.
15. OVERALL CONDITION: A number rating system from 1 to 7 indicating overall condition of entire shelter.
16. COMMENTS: Space provided for any comments which the team inspector feels relevant.

II SERVICE HISTORY

<p>(1) NO: _____</p> <p>(2) NAME: _____ DATE: / /</p> <p>(3) SERVICE BRANCH: _____</p> <p>(4) MODIFICATION DATES: _____</p> <p>(5) INSPECTION DATES: _____</p> <p>(6) MOBILIZING METHOD: MOBILIZERS VEHICLE _____ OTHER _____ NONE _____ SIZE _____</p> <p>(7) DEPLOYMENT/FREQ (QUANTITY) TRUCK _____ HELICOPTER _____ FLAT BED _____ CARGO (PLANE) _____ RAIL _____ SHIP _____</p> <p>(8) LOADING/UNLOADING METHOD: KIT _____ FORK LIFT _____ CRANE _____ TRUCK/TRUCK _____ WRECKER _____ OTHERS _____</p> <p>(9) DAMAGE ASSOCIATED WITH: TRANSPORTATION _____ LOADING _____ UNLOADING _____</p> <p>(10) DEPLOYMENT HISTORY: DATE _____ FROM _____ TO _____</p>	<p>(11) MAINTENANCE (PREVENTATIVE, REPAIR, REHAB.)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">FIELD</th> <th style="width: 25%;">DEPOT</th> <th style="width: 25%;">WHAT</th> <th style="width: 25%;">WHEN</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	FIELD	DEPOT	WHAT	WHEN																								
FIELD	DEPOT	WHAT	WHEN																										

II SERVICE HISTORY

(Refer to page 43)

NOTE: Information found in using activities records or by word-of-mouth.

1. NO.: Same as used for shelter identification (Sheet 1)
2. NAME: Name of individual preparing service history sheet.
3. DATE: Date of inquiry.
3. SERVICE BRANCH: Branch of Armed Forces; ex: Air Force, Army, etc.
4. MODIFICATION DATES: Dates when the shelter was modified; ex: vents, ducts, etc. If possible determine if depot modified or site modified.
5. INSPECTION DATES: Dates when using activity inspects their shelters.
6. MOBILIZING METHOD:
SIZE: How shelter is made mobile. Numeric characters entered as percentage for as many methods as needed.
Rating of mobilizer used; ex: 1½ ton 4 x 4 truck, etc.
7. DEPLOYMENT/FREQ. (QUANTITY): This refers to the method of shipment for any distance by means other than the mobility method of 6 and the number of times by each method.
8. LOADING/UNLOADING METHOD: Method used to load and unload shelter from a mobilizing media.
9. DAMAGE ASSOCIATED WITH: Indicates three categories in which damage usually occurs.
10. DEPLOYMENT HISTORY: Date and location of any maneuvers occurring during shelter life.
11. MAINTENANCE: Type, location, and time of maintenance action.

PHYSICAL CONDITION (GENERAL)

NUMERIC RATING

The condition of each shelter element, 1 through 10, will be given a numerical rating on a scale of 1 to 7. The criteria below will apply.

Unserviceable Poor	Serviceable Fair	Like New Good
1 2	3 4 5	6 7

This section represents our most difficult task. Not only must the condition be determined but the cause must be identified as well. The cause will be covered by three general categories as degradation, human induced, and design related.

Degradation may be classified as reversible or nonreversible. The former would apply to the aging of easily repaired or replaceable items as paint, gaskets and minor hardware. The latter applied to items requiring major depot activity to repair panels, doors, etc. where delamination, warping or leaking is evident.

The human induced category covers all events where abuse is evident. Examples include damage by fork lifts, loose shipping restraints, improper hoisting procedures, dropping in loading/off loading, and jacks deformed due to shelter relocation with jacks extended.

Design related causes relate to degrade conditions not related to lack of maintenance or abuse. Examples include delamination around openings in panels and peripheral areas of panels, sheared lift points, distorted or jammed jack elements, and sealing material separation at joints.

(9)

NO: _____

III PHYSICAL CONDITION

(1) PAINT

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

(2) SIDES
CEILING
FLOOR

(3) SEALS

(4) GASKETS

(5) LEAKAGE

(6) OPENINGS

(7) HARDWARE

HINGES

LATCHES

NUTS, BOLTS, etc.

1 2 3 4 5 6 7

1 2 3 4 5 6 7

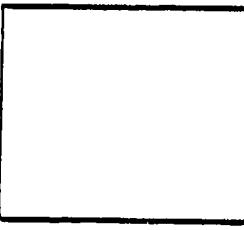
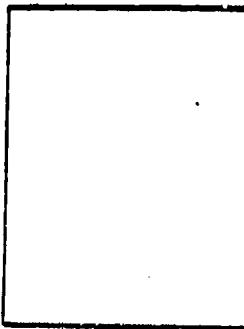
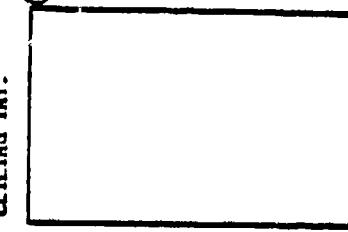
1 2 3 4 5 6 7

1 2 3 4 5 6 7

1 2 3 4 5 6 7

CEILING INT.

(10) REF SHIELDING 1 2 3 4 5 6 7



STREET/ROAD SIDE INT.

CLOSE SIDE INT.

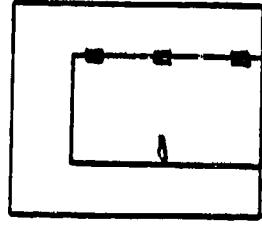
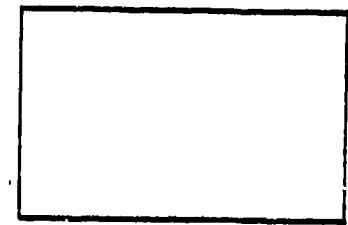
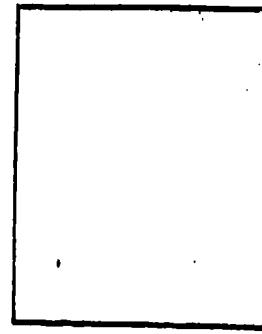
FRONT INT.

(8) COMMENTS:

CLOSE SIDE INT.

INTERIOR

FLOOR INT.



III PHYSICAL CONDITION INTERIOR
(Refer to page 46)

1. PAINT:

- A. Chipping and flaking - primer remains
- B. Peeling - large areas - bare metal
- C. Scored - Associated with damage caused by storing of A.L. units for transportation, etc.
- D. Oxidation - Dull surface, loose pigment present, in severe cases primer may show through.

Examine all interior surfaces and note type(s) of paint loss, if any. If loss is uniform on all surfaces, estimate % of loss. If loss is localized indicate areas on drawing and type code.

2. PANELS: Sides, Ceiling, and Floor

- A. Sound Panel - Flat, no bulges, waves, ripples, stress lines, or surface damage
- B. Delamination - Usually indicated by outward bulge of aluminum skin at peripheral surfaces and around openings. Tapping such areas with a half or silver dollar will produce a ring quite different from sound areas. All such areas of delamination will be shown on the drawing.
NOTE: Equipment attached to the interior panel surface will also effect the "ring."
- C. Overstress Damage - This condition may appear most frequently in ceiling panels as a result of improper hoisting procedures. The stress lines radiating from the corners with minor to major buckling and skin separation from core. Indicated on drawing.
- D. Induced Damage - This category is intended to cover obvious damage (punctures, crushed areas and corners, etc.) caused by human carelessness. Using personnel may remember how the damage occurred. Such information should be noted in comments and shown on drawing.

3. SEALS:

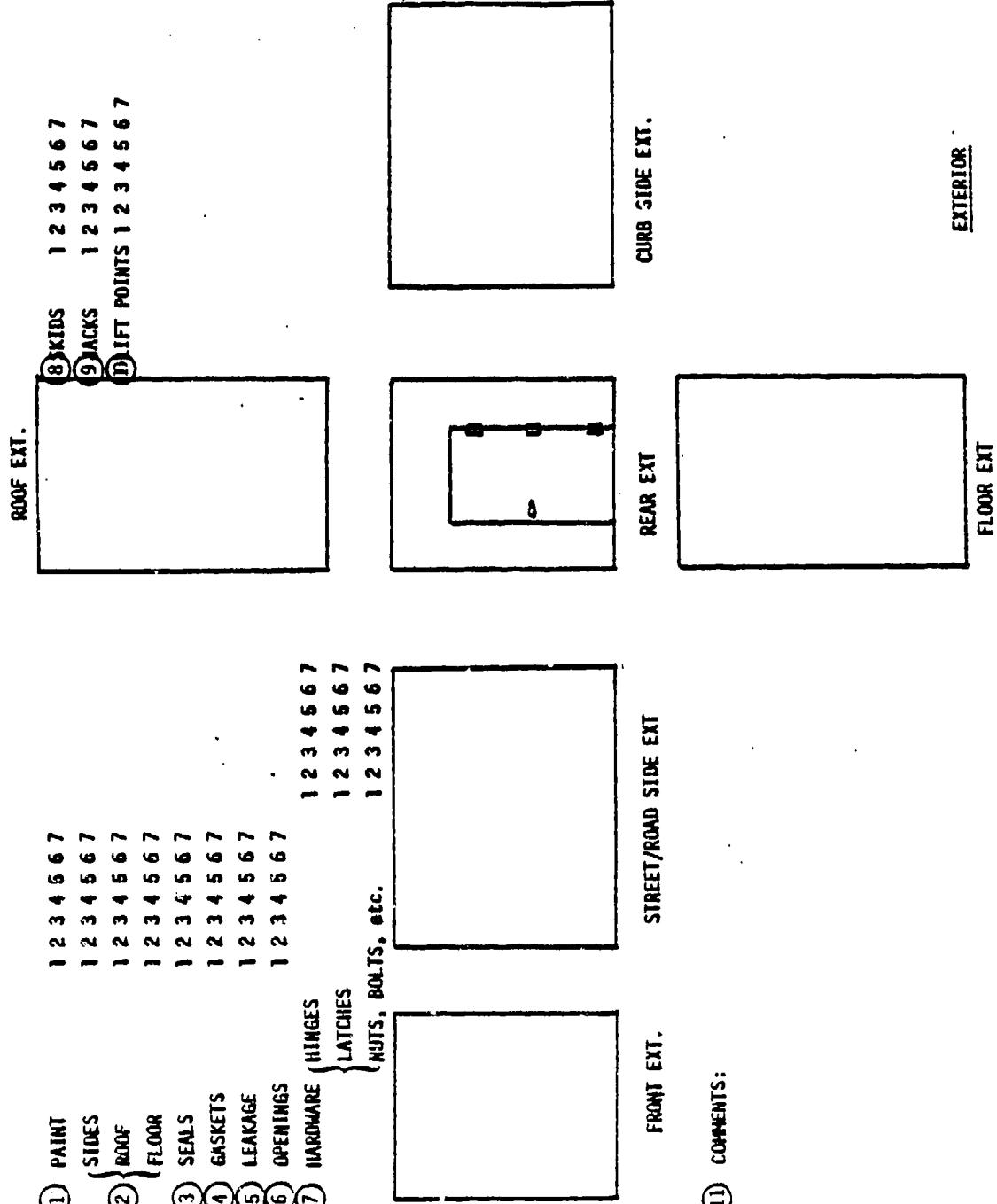
Examine for separation at seams and loss of resiliency. Separation at roof seams may also indicate a panel overstress condition. Hardening is indicative of aging. Note defects on drawing.

4. GASKETS: Used as interface between all types of doors and the shelter. Examine integrity of adhesive which restrains gasket material. Examine resiliency of gasket material. Indicate defects on drawing.
5. LEAKAGE: Water may be observed or stains may be evident at seams, bottoms of panels, cutouts, or from damage punctures. Pay particular attention to shelters showing other forms of damage or failure. Note nature of evidence of leaking and indicate on drawing.
6. OPENINGS: Examine all openings, feed-through, ducts, vents, etc. for condition of seals and surrounding areas for delamination. Determine if openings are depot or field modifications. Give location on the drawing.
7. HARDWARE ITEMS:
Hinges - Examine for distortion, alignment, and freedom from binding.
Door Latches - Examine for alignment, play, and binding.
Nuts, Bolts, Rivenuts,
Rivets, Spot Welds - Examine for missing and sheared items, over threaded rivenuts, and stripped threads. Indicate on drawing.
8. COMMENTS: Space provided for comments which the inspector feels relevant.
9. NO.: Same as used on Sheet 1.
10. RF SHIELDING: Located around door.
Finger type - Check for missing fingers, corrosion on fingers, contact to shelter.
Mesh type - Check for breaks in mesh, attachment of mesh to door, contact of mesh to shelter.
NOTE: Some shelters do not contain RF shielding.

IV PHYSICAL CONDITION EXTERIOR

(12) NO: _____

- | | | |
|--------------|---------------|---------------------------|
| (1) PAINT | 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7 |
| SIDES | 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7 |
| (2) ROOF | 1 2 3 4 5 6 7 | DIFT POINTS 1 2 3 4 5 6 7 |
| FLOOR | 1 2 3 4 5 6 7 | |
| (3) SEALS | 1 2 3 4 5 6 7 | |
| (4) GASKETS | 1 2 3 4 5 6 7 | |
| (5) LEAKAGE | 1 2 3 4 5 6 7 | |
| (6) OPENINGS | 1 2 3 4 5 6 7 | |
| HARDWARE | 1 2 3 4 5 6 7 | HINGES |



IV PHYSICAL CONDITION EXTERIOR

(Refer to page 49)

NOTE: In reference to Items 1 through 7, please refer to III Physical Condition Interior and corresponding numbers.

8. SKIDS:

Minor damage to these items is to be expected. Look for and report major distortions, buckling, collapsed section, and sheared weld, rivets or bolts.

9. JACKS:

These items, since they are located at the corners of shelters, are vulnerable to damage and failure. Bending of foot plates and lower jack post may frequently be induced through movement of shelters with posts in an extended position. Examine for lubricant, condition of threads, straightness of shafts, and soundness of attachment points. Note any deficiencies on the drawings.

10. LIFT POINTS:

Examine for distortion, cracks, fracture, and loose or sheared or stripped, attachment hardware. Could occur in conjunction with overstress panels and seal separation. Examine for modifications either depot or site also if modifications were authorized. Note any discrepancies on drawings.

11. COMMENTS:

Space provided for comments which the inspector feels relevant.

12. NO.:

Same as used on Sheet 1.

V. GENERAL COMMENTS

1. After examination of a shelter there will be a set of four examination papers created. The category (NO.) will contain the same number for a set of papers corresponding to an individual shelter.
2. Referring to I Shelter Identification, number 15, this rating should be discussed between the entire team and should not be filled in until after the completion of the examination of the shelter.
3. In general, any information which can be gained by discussion with personnel should be entered in the appropriate comment section.

APPENDIX B

Data Base

EXPLANATION FOR DATA BASE CODES

Comments Column

Comments will be coded first by an alpha character indicating interior or exterior. The alpha character will be followed by one or more numeric characters indicating different comments.

Example:

B-Exterior; 2-Holes, Punctures; 9-Skid Damage; etc,...

See below for a listing of comments and their codes.

Shelter Nomenclature Column

An alpha character C will indicate whether or not the shelter is part of a module. A module is defined as a complex made up of two or more shelters connected together. The character C will appear in the right side of the shelter nomenclature column. A numeric character will follow indicating the number of shelters in the complex.

An asterisk may appear in the left side of the Foam and Beam shelter nomenclature column. The asterisk will indicate that a shelter has gone to depot within the past year. An asterisk may appear in the left side of the Honeycomb shelter nomenclature column. The asterisk will indicate that a shelter has gone to depot within the past five years.

Code	Comments
A	Interior
B	Exterior
1.	Delamination
2.	Holes, Punctures; tree limbs, incorrect handling etc.
3.	Leaks; Shelter Structure
4.	Leaks; Items attached to shelter. Ex: power inlet box (includes expandables).

Code	Comments
5.	Dents
6.	Deteriorating Rivernuts; Rusting, Stripped, Pulled Out, Broken Stud, etc.
7.	Insufficient Patching; Lack of proper amount of sealant, incorrect attaching methods, etc.
8.	Rusting; Ferrous Metals
9.	Skid Damage
10.	Seal damage; cracking, chipping missing, pulled away, etc.
11.	Depot Repair
12.	Site Repair
13.	Tiedown Chain Damage
14.	Damaged Gasket; missing, broken, misapplied, etc.
15.	Deteriorating Paint; chipping, peeling, scrapped, oxidize, etc.
16.	Corrosion; non ferrous metals
17.	Deteriorated door latches and hardware;
18.	Damaged lift points;
19.	Damaged mobilizer mounts
20.	Skin cracks
21.	Damaged RF Shielding
22.	Skin Separation; Pulling away from seams.
23.	Fork Lift Damage
24.	Non-operating levels
25.	Overstress Damage; Bulges, etc.
26.	Damaged spot welds

Manufacturers Column

Code	Mfg.	Code	Mfg.
Gi	Gichner	E	Electro Mechanical
Go	Goodyear	T	Twin Industries
C	Craig	B	Brunswick
D	Dekalb	L	Loadcraft
Y	York Astro	Z	Zero Corporation
M	Magline		

C
O
N
T
R
O
N
L
O

	COMMENTS	SHELTER NOMENCLATURE	M F L.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
		S-308				
1	A,1-B,1,2,20	S-308A		8-2	U 161A/TRC-97B	NOBSR-93356
2	B,1,13,10	S-308A		8-235	OA TRC-97B	NOBSR-93356
3	B,1,13	S-308		46	..C-97A	NOBSR-93356
4		S-308		16	OA-7161A/TRC-97A	NOBSR-93356
5	B,13,5	S-308		154	OA-7161A/TRC-97A	NOBSR-93356
6	B,10	S-308		19	OA-7161A/TRC-97A	NOBSR-93356
7	A,1,21-B,15	* S-308		34	OA-7161A/TRC-97A	NOBSP-93356
8	B,13,16	S-308A		129	TRC-97A	NOBSR-93356
9		* S-308A		170	TRC-97A	NOBSR-93355
10	A,1-B,15	S-308A		84	TRC-97A	NOBSR-93356
11	A,1-B,15,13	S-308A		172	TRC-97A	NOBSR-93356
12	A,1-B,15	S-308C		123	OA-7161A/TRC-97A	NOBSR-93356
13	A,15,14	S-308A		121	TRC-97A	NOBSR-93356
14	A,1,14	S-308A		27	TRC-97A	NOBSR-93356
15		S-308A		188	TRC-97A	NOBSR-93356
16	A,1-B,15,4,10,1	S-308		109	TRC-97A	NOBSR-93356
17	B,1	S-308C		80	OA-7161A/TRC-97A	NOBSR-93356
18	A,1-B,1	S-308A		8-18	OA-7161A/TRC-97A	NOBSR-93356
19	B,1,10	S-308		8-8	TRC-97B	NOBSR-93356
20	A,1-B,1	S-308		164	OA-7161A/TRC-97A	NOBSR-93356
21	B,1	S-308	G1	165	TRC-97A	NOBSR-93356
22	A,14-B,1	S-308	G1	210	TRC-97A	NOBSR-93356
23	A,1-B,1,5,13	S-308	Y	1142-2	AN/TSC-15	NOBSR-93356
24	B,1	S-308		5	TRC-97	NOBSR-93356
25	B,1	S-308		38	TRC-97	NOBSR-93356
26	B,1	S-308A		266	TRC-97A	NOBSR-93356
27	A,1-B,1	S-308A		62	TRC-97A	NOBSR-93356
28	A,1-B,1	S-308A		191	OA-7161/TRC-97A	NOBSR-93356
29	B,1,16,15	S-308A		43	GCC-6/TRC-97A	NOBSR-93356
30	B,1	S-308A		15	TRC-97A	NOBSR-93356
31	B,1	S-308A		70	TRC-97	NOBSR-93356
32	B,1	S-308A		74	TRC-97A	NOBSR-93356
33		* S-308A		209	TRC-97A	NOBSR-93356
34	B,1,15	S-308A		71	TRC-97A	NOBSR-93356

CONDITION STATEMENTS																		BASE									
INTERIOR									EXTERIOR																		
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL	
5	4	3	5	5	4	N	4	5	5	5	4	5	5	5	3	3	N	5	5	5	5	5	5	5	5	5	SHAW
6	6	6	6	6	6	N	6	5	5	5	3	5	5	4	5	4	5	N	5	5	5	5	5	5	5	5	SHAW
5	5	5	6	6	4	N	5	6	5	6	4	5	4	5	5	5	5	N	5	5	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	SHAW
5	5	5	5	5	2	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	SHAW
4	5	5	5	5	3	N	4	4	4	4	4	4	5	5	5	5	5	N	5	5	5	5	5	5	5	5	SHAW
4	4	3	4	4	1	N	5	5	5	5	5	5	5	5	5	5	5	N	4	4	4	4	4	4	4	4	ROBINS
3	5	5	5	5	4	N	5	5	5	5	5	3	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS
6	6	6	6	6	6	N	6	6	6	6	6	1	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS
5	5	4	5	5	5	N	4	4	4	4	4	1	4	4	4	4	4	N	4	4	4	4	3	4	4	5	ROBINS
5	5	3	4	5	5	N	4	5	5	5	5	1	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS
5	5	3	5	5	5	N	5	5	5	5	5	3	4	4	4	4	4	N	4	4	4	4	4	4	4	5	ROBINS
4	4	4	4	4	2	N	4	5	5	5	5	2	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS
4	4	3	4	4	2	N	4	5	5	5	5	3	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS
4	4	4	4	4	2	N	4	4	4	4	4	4	5	5	5	5	5	N	5	5	5	5	5	5	5	5	ROBINS
4	4	4	4	4	2	N	4	4	4	4	4	4	4	5	5	5	5	Y	5	5	5	5	5	5	5	5	BERGSTROM
4	4	4	4	4	4	N	4	4	4	4	4	4	5	5	5	5	5	N	5	5	5	5	5	5	5	5	BERGSTROM
3	4	4	4	3	3	N	4	4	4	4	4	4	5	4	3	4	4	N	4	4	4	4	4	4	4	3	BERGSTROM
3	4	4	4	4	2	N	4	4	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	BERGSTROM
5	5	5	5	5	5	N	5	5	5	5	5	2	4	2	2	4	4	N	4	4	4	4	3	4	4	5	BERGSTROM
5	5	5	5	5	5	N	5	5	5	5	5	1	4	3	4	4	4	N	4	4	4	4	4	4	4	4	BERGSTROM
5	5	5	5	5	3	N	5	5	5	5	5	1	4	3	4	5	4	N	4	4	4	4	4	4	4	4	BERGSTROM
5	5	5	5	5	3	N	5	5	5	5	5	1	4	3	4	5	4	N	4	4	4	4	4	4	4	4	BERGSTROM
3	3	3	4	4	3	N	4	4	1	4	4	4	5	5	5	5	5	N	5	5	5	5	5	5	5	4	CHERRY PT.
3	5	5	5	5	5	N	5	5	5	5	5	4	5	4	4	4	4	N	5	5	5	5	5	5	5	5	EGLIN
4	4	4	4	4	4	N	4	4	4	4	4	5	4	4	4	4	4	N	4	5	5	5	5	5	5	4	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	1	4	4	4	4	4	N	4	4	4	4	4	4	4	4	EGLIN
5	5	4	5	5	5	N	5	5	5	5	5	1	5	5	3	5	5	N	5	5	5	5	5	5	5	5	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	4	4	4	4	N	4	4	4	4	4	4	4	4	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	4	4	4	4	N	4	4	4	4	4	4	4	4	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	6	6	6	N	6	6	6	6	6	6	6	6	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	7	7	7	7	N	7	7	7	7	7	7	7	7	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	EGLIN

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	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
S-280						
40	B,5	S-280 A/G	Y	1122-279	TRC/132A	FR3603986-0129E
41	B,5,2	S-280 A/G (MOD)	Y	1122-300	TRC-132A	FR3603986-0129E
42	B,5,1,15	S-280 B/G	M	0114-10468		DAAB05-69-C-0114
43	B,5,2	S-280 A/G		221	MX-6168/TRT-22	FR36-039-A6-01297E
44	A,4-8,2,8	S-280 A/G	Y	1122-230	C-6023/TRT-22	FR36-039-A6-01297E
45	B,2,15,8,5	S-280 B/G	E	1372	PP-3922/TRT-22	DAAB05-67-C-2509
46	B,1,2	S-280	M	0114-5908		DAAB05-69-C-0114
47	A,10-B,10,7,3,2,8	S-280 B/G	D	71	ASM-1478	DAAB05-68-C-1726
48		S-280 B/G	D	560	MTC-1A	DAAB05-68-C-1726
49	A,10,3-B,8,7,3	S-280 B/G	E	1664	ASM-1468	DAAB05-67-C-2509
50	B,8,2	S-280 B/G	D	7	ASM-1468	DAAB05-67-C-1726
51	A,10-B,2,8	S-280 B/G	E	982	ASM-1468	DAAB05-67-C-2509
52	A,10-B,7,10,6	S-280 B/G	E	109	ASM-1468	DAAB05-69-C-0129
53	A,10,16-B,2,13,6,20,	S-280 B/G	D	6	ASM-1478	DAAB05-68-C-1726
54	B,1	10 S-280 B/G	M	0114-20048	TSQ-84	DAAB05-69-C-0114
55		S-280 B/G	M	0114-20288	TSQ-84	DAAB05-69-C-0114
56	A,4	S-280 B/G	M	0114-9868	ASM-1468	DAAB05-69-C-0114
57	A,4	S-280	M	0114-6678	ASM-1468	DAAB05-69-C-0114
58		S-280 B/G	M	0114-13008	ASM-147	DAAB05-69-C-0114
59	A,10-B,13,2,5	S-280 B/G	M	0114-5428		DAAB05-69-C-0114
60	A,10,1,4-B,19	S-280 B/G	M	0114-17638		DAAB05-69-C-0114
61	A,10-B,20,13	S-280 TYPE	C	9723-68		DAAB05-69-C-0114
62	B,1	S-280 B/G	E	97		
63	A,1-B,8,10	S-280 B/G	E	63		DAAB05-69-C-0129
64	B,10,7	S-280 B/G	M	0114-5413		DAAB05-69-C-0129
65	B,13,5	S-280 B/G	M	0114-10308		DAAB05-69-C-0114
66	B,10,13	S-280	M	0114-5998	Maintenance Van	DAAB05-69-C-0114
67		S-280	Y	1184-18	GRM-86	M00027-67-C-0037
68	B,1	S-280 B/G	E	123	TTC-38	DAAB05-69-C-0129
69	A,1-B,5,1	S-280 B/G	E	4		F19628-69-C-0120
70	A,1-B,5	S-280	G1	10510-1		DSA700-76-C-3159
71	A,21-B,2,15,16	S-280 B/G	G1		TRC-165	F19628-68-C-0120
72	A,1-B,1	S-280 B/G	E	3		F42580
73	A,1-B,5,1	S-280	C	9728-33		F19628-67-C-0394
74	A,1-B,1,5	S-280 B/G	V	1234-24	TSC-62	

CONDITION STATEMENTS																											
INTERIOR									EXTERIOR																		
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL	BASE
5	5	5	5	5	5	N	4	4	4	4		6	6		6	7	N	6	7	7	7	5	7	4	7	GRIFFISS	
5	5	5	5	4	5	Y	2	5	5	5		6	6		6	4	N	4	4	4	4	6	6	4	7	GRIFFISS	
5	5	5	5	5	5	N	5	5	5	5		4	4	4	4	4	N	4	3	3	3	4				BERGSTROM	
5	5	5	5	5	3	3	N	5	5	5		3	3	4	4	4	N	4	4	4	4	4				FORT BRAGG	
5	5	5	5	5	2	5	Y	5	5	5		4	4	3	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	5	Y	5	5	5		5	5	4	5	4	Y	5	5	5	5	4				FORT BRAGG	
5	5	5	5	5	5	N	5	5	5	5		5	5	4	5	5	5	N	5	5	5	5	5			FORT BRAGG	
5	5	5	5	5	5	N	5	5	5	5		5	5	4	5	5	5	N	5	5	5	5	5			FORT BRAGG	
5	5	5	5	5	2	6	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	3	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	5	N	5	5	5		4	3	3	4	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	5	N	5	5	5		6	6	6	6	6	N	6	6	6	6	6				FORT BRAGG	
5	5	5	5	5	5	5	Y	1	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	1	Y	1	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				FORT BRAGG	
5	5	5	5	5	5	5	Y	1	5	5		4	3	5	4	5	N	4	5	5	5	5				SHAW	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	1	5	Y	1	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	Y	1	5	5		4	3	5	4	5	N	4	5	5	5	5				SHAW	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	Y	1	5	5		4	3	5	4	5	N	4	5	5	5	5				SHAW	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				SHAW	
5	5	5	5	5	5	5	N	5	5	5		5	5	5	5	5	N	5	5	5	5	5				CHERRY PT.	
4	4	4	4	4	4	N	4	4	4	4		5	5	5	5	5	N	5	5	5	5	5				CHERRY PT.	
4	4	4	4	4	4	N	4	4	4	4		6	6	6	6	6	N	6	6	6	6	6				EGLIN	
5	5	5	5	5	5	N	5	5	5	5		5	5	5	5	5	N	5	5	5	5	5				EGLIN	
5	5	5	5	5	5	N	5	5	5	5		4	4	4	4	4	Y	5	5	5	5	5				EGLIN	
4	4	4	4	4	4	N	4	4	4	4		6	6	6	6												

CONT R ON L O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
75	8.1,15,16	S-280 B/G	E	2	Maintenance	
76		S-280	C	9723-88	Maintenance	F42580
77	8.1	* S-280	C	20	TTC-30	F19628-67-C-0270
78	8.1	* S-280	C	20	TTC-30	F19628-67-C-0270
79	A.1-8.1,23	S-280 B/G	E	5	TRC-64	
80	A.1-8.1,15,10	S-280/G	Y	10798-33	GRM-32E	N014-73220
81	A.1,21	S-280 B/G	E	4	AN/TRC-165	F19628-69-C-0120
82	A.1,8.1	S-280 MOO	G1	1199C-1	AN/TYA-16	N0024-67-C-1485
		S-141				
83		S-141/G	D	267		FR36-039-8-4-05961E
84	8.10,2	* S-141	T	0-1		
85	8.5	S-141/G	D	253		FR36-039-8-4-05961E
86	8.10,16,7	S-141/G	D	258		FR36-039-8-4-05961E
87	A.1-8.10,15	* S-141/G	D			FR36-039-8-4-05961E
88	8.10,5	S-141/G	D	256		FR36-039-8-4-05961E
89	8.1,10	S-141/G	D	257		FR36-039-8-4-05961E
90	A.16,3-8.7,10,5	S-141/G	D	261		FR36-039-8-4-05961E
91	A.1,3-8.19,2,4	S-141	C	3371-22		0A36-039SC-90561
92	A.1-8.8,7,15	S-141/G	D	332		FR36-039-8-5-00564E
93	A.2-8,10	S-141/G	G1	1016-7	AN/MTC-1	DAAB05-68-C-1734
94	A.6,3-8.2,7,12,20,3	S-141/G	G1	1016-75	AN/MTC-1	DAAB05-68-C-1734
95	8.2,15,8	S-141/G	T	58	AN/MSC-29/S-176C	19028-PP-62
96	8.18,2	S-141/G	E	28	GRM-85	
97		S-141/G	D	265		FR36-038-8-4-05961
98	8.2	S-141/G	D	263		FR36-038-8-4-05961
99		S-141/G	D	266		FR36-038-8-4-05961
100	A.1-8.1,15,5	S-141	B	001A	GRM-94	
101	A.1-8.1,15,5	S-141	G1	10453-2	GRM-94	M00027-74-C-0097
102	8.10,7	S-141/G	D	252		FR36-039-8-4-05961E
		S-515				
103	8.15	* S-515	C ₁	10492-501-16		F08638-75-C-0009
104		* S-515 A/G	C ₂	10502-8		F30602-77-C-0117
105	8.15	* S-515	C ₁	10492-502-12		F08638-75-C-0009
106	8.15	* S-515 A/G	C ₂	10502-2		F30602-77-C-0117

CONDITION STATEMENTS															BASE												
INTERIOR								EXTERIOR																			
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL	
4	4	4	4	4	4	N	4	4	4	4	5	3	4	3	4	4	4	N	4	4	4	4	4	5	4	EGLIN	
4	4	4	4	4	4	N	4	4	4	4	5	5	5	5	5	5	5	N	5	5	5	5	5	5	4	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	4	5	5	5	5	N	5	5	5	5	5	5	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	4	3	3	4	4	N	4	4	4	4	4	3	4	EGLIN	
4	4	4	2	4	4	N	4	4	3	3	3	4	4	3	5	2	5	N	5	5	5	5	5	6	4	EGLIN	
4	2	2	4	4	4	N	4	5	5	5	5	4	6	6	6	6	6	N	6	6	6	6	6	6	5	EGLIN	
4	4	4	3	4	4	N	4	4	4	4	3	4	3	3	4	4	N	4	4	4	4	4	4	4	4	CHERRY PT.	
5	5	5	5	5	5	N	5	5	5	5	5	5	3	4	4	3	4	N	4	4	4	4	4	4	4	CHERRY PT.	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	CHERRY PT.	
6	6	3	6	6	6	N	6	6	6	6	6	5	3	4	3	2	3	N	3	3	3	4	4	3	3	CHERRY PT.	
6	6	6	6	6	6	Y	6	6	6	6	6	4	4	4	1	2	3	Y	3	3	3	4	4	1	3	CHERRY PT.	
6	6	6	6	6	6	N	6	6	6	6	6	4	3	3	4	3	2	N	3	3	1	4	4	4	4	CHERRY PT.	
6	6	6	6	6	6	N	6	6	6	6	6	3	3	4	4	3	2	N	2	4	4	4	4	4	4	KELLY	
4	4	4	4	4	4	Y	4	4	4	4	4	3	3	1	5	4	4	Y	4	4	4	4	4	4	2	FORT BRAGG	
5	5	5	5	5	5	N	5	5	4	5	5	5	5	4	5	5	5	N	5	5	5	5	5	5	5	FORT BRAGG	
5	5	5	5	5	5	N	5	0	6	6	6	5	5	5	5	5	5	N	5	5	5	5	5	5	5	FORT BRAGG	
4	4	4	4	4	4	N	4	4	4	4	4	5	5	5	5	5	5	N	5	5	5	5	5	5	5	FORT BRAGG	
4	4	4	4	4	4	N	4	4	4	4	4	5	5	5	5	5	5	N	5	5	5	5	5	5	5	EGLIN	
4	3	3	3	4	3	N	3	4	4	4	4	4	3	4	4	1	3	N	4	4	4	4	4	4	4	KELLY	
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	4	4	KELLY	
6	6	6	6	6	6	N	6	6	6	6	6	5	5	5	1	5	5	N	5	5	5	5	5	5	5	KELLY	
3	4	3	3	4	3	N	3	4	4	4	4	3	3	3	3	3	3	N	3	4	4	4	4	2	3	BERGSTROM	
5	5	5	5	5	5	N	5	5	5	5	5	2	4	3	4	3	4	N	4	4	4	4	2	4	5	BERGSTROM	
6	6	6	6	6	6	N	6	6	6	6	6	4	4	4	4	4	4	N	4	4	4	4	4	4	5	EGLIN	
												4	5	5	5	5	5	N	5	5	5	5	5	5	5	KELLY	
												4	5	5	5	5	5	N	5	5	5	5	5	5	5	KELLY	
												4	5	5	5	5	5	N	5	5	5	5	5	5	5	KELLY	
												4	5	5	5	5	5	N	5	5	5	5	5	5	5	KELLY	

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	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
107	8.15	* S-515	C ₁	G1	10492-501-11	F08638-75-C-0009
108	8.15	* S-515 A/G	C ₂	G1	10502-4	F30602-77-C-0117
109	8.6.15	S-515	C ₁	G1	10452-501-2	F08638-74-C-0016
110	8.15	S-515	C ₂	G1	10452-501-5	F08638-74-C-0016
111		S-515		G1	10452-501-1	F08638-74-C-0016
112	8.6.15	S-515	C ₁	G1	10492-501-12	F08638-75C-0009
113		S-515 A/G	C ₂	G1	10492-501-16	F30602-77-C-0117
114	8.6	S-515	C ₁	G1	10492-501-6	F08638-75C-0009
115		S-515	C ₂	G1	10492-501-9	F08638-75C-0009
116	8.2	S-515	C ₁	G1	10452-501-5	F08638-74-C-0016
117		S-515	C ₂	G1	10453-501-3	F08638-74-C-0016
118		S-515	C ₁	G1	10492-501-3	F08638-75-C-0009
119		S-515	C ₂	-	10492-501-4	F08638-75-C-0009
120	8.8	S-515	C ₁	G1	10452-501-4	F08638-74-C-0016
121	8.8	S-515	C ₂	G1	10492-501-3	F08638-75-C-0009
122		S-515		G1	10452-501-9	F08638-74-C-0016
		S-521				
133	A,3,1-8,15	S-521/T		G1	10448-3	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
134	A,3-8,9,22	S-521/T		G1	10448-9	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
135	A,1-8,1	S-521/T		G1	10448-8	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
136	A,1,3-8,3	S-521/T		G1	10448-7	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
137	A,3-8,2,8,10,15,1	S-521/T		G1	10443-1	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
138	A,2-8,1,2	S-521/T		G1	10448-2	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
139	A,3,21,1-8,1,5	S-521/T		G1	10448-5	AN/TPN-19/AN/TPN-25 F19628-73-C-0298
		S-514				
153	8,8	S-514	C ₁	G1	10452-501-10	F08638-75-C-0009
154	8,10,8	S-514	C ₂	G1	10452-502-4	F08638-74-C-0016
155		S-514	C ₁	G1	10452-502-2	F08638-74-C-0016
156	8,8	S-514	C ₂	G1	10452-502-7	F08638-74-C-0016
157		S-514	C ₁	G1	10452-502-5	F08638-74-C-0016
158	8,24	S-514	C ₂	G1	10452-502-9	F08638-74-C-0016
159	A,3,10	S-514	C ₁	G1	10492-502-3	F08638-75-C-0009
160	A,1-8,8	S-514	C ₂	G1	10452-502-3	F08638-74-C-0016
161	8,15	* S-514 A/G	C ₁	G1	10492-502-15	F08638-75-C-0009
162	8,15	* S-514 A/G	C ₂	G1	10502-8	F30602-77-C-0117
163	8,15	S-514 A/G	C ₁	G1	10502-9	F30602-77-C-0117
164	8,15	S-514 A/G	C ₂	G1	10502-9	F30602-77-C-0117

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	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
165	8,10,15	S-514 C ₁	G1	10452-502-8		F08638-74-C-0016
166	8,15	S-514 C ₂	G1	10452-501-6		F08638-74-C-0016
167	8,10	S-514 C ₁	G1	10452-502-1		F08638-74-C-0016
168		S-514 C ₂	G1	10452-502-6		F08638-74-C-0016
169	8,10,5	S-514 C ₁	G1	10492-502-1		F08638-75-C-0009
170	8,5,10	S-514 C ₂	G1	10492-502-7		F08638-75-C-0009
171	8,15	S-514 C ₁	G1	10492-502-11		F08638-75-C-0009
172	8,15	S-514 A/G C ₂	G1	10492-501-14		F30602-77-C-0117
		S-537				
186	8,25	S-537/U H-585	G1	10332-2	AN/ULQ-9/AN/UYK-14	510038
202	8,1	H-585	C	3436-9		AF30-635-30907
203	A,1,8,2,3-8,1,3,10	H-585	C	3438-13		AF30-635-30907
204	8,1,10	H-585	C	3438-21		AF30-635-30907
205	8,26,19,8,10,3	H-585				AF30-635-30907
		S-450				
217	8,15,5	S-450	G1	9	0Z-11/TSC-60V3 #009	F19628-68-C-0164
218	A,1,22,21	S-450	G1	1009-57	0Z-11/TSC-60V3	F19628-68-C-0164
		LS-373				
231		LS-373		916489-7		F33657-71-C-0103
232		LS-373		916489-6		F33657-71-C-0103
		S-208				
250	A,1,10-8,1	S-208		3	AN/TSC-15	NoBre-77320
251	A,1-8,1,3	S-208		4	AN/TSC-15	NoBre-77320
252	A,22-8,1,3	S-208		13	AN/TSC-15	NoBre-77320
253	8,1	S-208		58	AN/TSC-15	NoBre-77320
254	A,3,20-8,1,10	S-208		159	AN/TSC-15	NoBre-77320
255	A,8,1-8,5,15,3,1	S-208	Y	132	AN/TSC-15	NOM-71001
256	8,1	* S-208		6	TSC-15	NOM-72320
257	8,1	S-208		036	TSC-15	NOM-73371
		S-588				
266	A,3-8,5,15,	S-588/G	8	770055	AN/GRN-29(V)/AN/GRN-30(V)	F19628-76-C-0210
267	8,15	S-588/G	8	770059	AN/GRN-29(V)/AN/GRN-30(V)	F19628-76-C-0210
		S-334				
279	8,1,5,13,7,20	S-334	Y	1051-9	AN/GRM-32C	NOM-72991
280	A,1,14-8,1,5	S-334	G1	10575	S-334/GRM-32C	DAS700-77-C-8312

CON D I C T I O N L O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
		S-138				
297	8,7,15	S-138TP	Y	1217-2		F09693-70-C-0963
		S-530 (See Note)				
311	8,15,5	S-530 A/G	G	1002		F19628-77-C-0113
312		S-530 A/G	G	1001		F19628-77-C-0113
313		S-530 A/G	G	1003		F19628-77-C-0113
314	8,1,15,5	S-530 A/G	G	1004		F19628-77-C-0113
315	8,10	S-530/G	G	1035		F19628-77-C-0113
		S-395				
327	A,10-8,5,2	S-395/G	E	899	X-mitter T-938/TRT	DAAB05-67-C-2509
328	8,2,5	S-395/G	E	897	X-mitter C6025/TRT	DAAB05-67-C-2509
329	8,5,10	S-395/G	E	895	M0588/TRT	DAAB05-67-C-2509
		S-448				
344	A,1-8,5,10	S-448	G	54	AN/TSC-60(V)1	F04606-77-C-0896
345	8,5,15	S-448	G	10503-20	TSC-60	F04606-76-C-0248
		S-449				
356	A,1-8,1,5,15	* S-449	G	019	AN/TSC-60(V)1	F19628-68-C-0164
357	8,5,15	S-449	G	1009-60	AN/TSC-60(V)3	F19628-68-C-0164
358	A,21-8,3,19	S-449	G	1009-66	AN/TSC-60(V)3	F19628-68-C-0164
359	A,1,21-8,5,6,19	S-449	G		AN/TSC-60(V)2	F19628-68-C-0164
360	A,1-8,5,6	S-449	G		AN/TSC-60(V)2	F19628-68-C-0164
361	A,27,1-8,5	S-449	G	14	AN/TSC-60(V)2	F19628-68-C-0164
362	A,21-8,1	S-449	G	004	AN/TSC-60(V)2	F19628-68-C-0164
363		S-449	G	10579-22-2	AN/TSC-60(V)2	F04606-77-C-0896
364	8,5	S-449	G	10579-14	AN/TSC-60(V)2	F04606-77-C-0896
365	A, 4-8,4	S-449	G	10579-3-31	AN/TSC-60(V)3	F04606-77-C-0896
366		S-449	G	41	AN/TSC-60(V)2	F04606-77-C-0896
367	A,1	S-449	G		AN/TSC-60	F19628-68-C-0164
368	8,1,16,15	S-449	G		AN/TSC-60	F19628-68-C-0164
369	A,1-8,1	S-449	G		AN/TSC-60	F19628-68-C-0164
		S-426				
378	A,1-8,1	S-426	G	1003-23	AN/MRC-113(V)2,AN/MCC-14 F34601-68-C-1654	
		S-520				
391	A,3-8,10,15	S-520/T	G	10447-4	AN/TPN-19/AN/TPN-24	F19628-73-C-0298
392	A,1,21,8-8,25,15	S-520/T	G	10447-9	AN/TPN-19/AN/TPN-24	F19628-73-C-0298
393	A,1-8,7,8	S-520/T	G	10447-5	AN/TPN-19/AN/TPN-24	F19628-73-C-0298
394	A,1-8,5,2,6	S-520/T	G	10447-1	AN/TPN-19/AN/TPN-24	F19628-73-C-0298

Note: The honeycomb shelter data base is limited to the S-530 shelters on pages 66 through 67 and the 343N type shelters on pages 74 through 75, 76 through 77, and 78 through 79. The relatively small data base resulted from funding limitations which limited the data collection efforts to the continental United States.

CONDITION STATEMENTS																												
INTERIOR									EXTERIOR									BASE										
PAINT	SIDES	Ceil Ing	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL		
			5	4	N	5	5	5	5	5		3	3	3	4	4	4	N	5	5	5	5	5	5	5	4	BERGSTROM	
7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	7	7	7	N	7	7	7	7	7	7	7	6	ROBINS	
7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	ROBINS	
7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	7	7	7	N	7	7	7	7	7	7	7	4	ROBINS	
7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	7	7	7	N	7	7	7	7	7	7	7	7	ROBINS	
6	6	6	6	6	6	N	6	6	6	6	6	6	6	6	6	4	6	N	6	6	6	6	6	6	6	6	TINKER	
5	5	5	5	2	5	Y	5	5	5	5	5	5	4	4	4	5	5	5	N	5	5	5	5	5	5	5	4	BRAGG
5	5	5	5	5	5	N	5	5	5	5	5	5	5	4	5	5	5	5	N	5	5	5	5	5	5	5	5	BRAGG
5	5	5	5	5	5	N	5	5	5	5	5	5	4	4	4	4	4	N	4	4	4	4	4	4	4	4	BRAGG	
6	6	6	6	3	6	6	N	6	6	6	6	7	5	5	5	5	3	5	N	5	5	5	5	5	5	4	SHAW	
6	6	6	6	6	6	N	6	6	6	6	6	6	6	6	6	6	6	N	6	6	6	6	6	6	6	6	EGLIN	
4	3	1	3	4	Y	4	4	4	4	4	4	4	5	4	3	4	3	4	N	5	5	5	5	5	5	2	BERGSTROM	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	4	4	4	4	4	N	4	4	4	4	4	4	5	ROBINS	
5	5	5	5	5	5	N	5	5	5	5	5	5	2	4	4	4	4	4	N	4	4	4	4	4	4	5	ROBINS	
5	5	5	5	5	5	N	5	5	5	5	5	3	4	4	4	4	4	N	4	4	4	4	4	4	4	1	ROBINS	
5	5	5	5	5	5	N	5	5	5	5	5	5	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ROBINS	
4	4	4	4	4	4	N	5	2	4	4	5	4	5	5	5	5	5	N	5	5	5	5	5	5	4	4	ANG (MASS)	
4	4	4	4	4	4	N	4	3	4	4	1	4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	ANG (MASS)	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	6	6	6	N	6	6	6	6	6	6	6	6	TINKER	
5	5	5	5	6	6	Y	5	5	5	5	5	5	5	6	6	5	6	6	Y	6	6	6	6	6	6	6	6	TINKER
5	5	5	5	5	5	Y	5	5	5	5	5	5	5	7	7	7	7	7	Y	7	7	7	7	5	7	6	6	TINKER
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	6	6	6	N	6	6	6	6	5	6	6	6	TINKER	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	6	6	6	N	6	6	6	6	6	6	6	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	6	6	6	N	6	6	6	6	6	6	6	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	4	6	6	N	6	6	6	6	6	6	6	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	6	4	6	6	N	6	6	6	6	6	6	6	5	EGLIN	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	ANG	
5	5	5	5	5	5	Y	5	5	5	5	5	5	5	4	5	5	5	3	5	N	5	5	5	5	5	5	5	TINKER
5	5	5	5	5	5	N	5	5	5	5	5	3	4	5	5	5	5	5	N	5	5	5	5	5	5	4	5	TINKER
5	5	5	5	5	5	N	5	5	5	5	5	6	5	5	5	5	5	N	5	5	5	5	4	5	5	5	TINKER	
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	5	5	N	5	5	5	5	4	5	5	5	TINKER	

CO V T R O N L.O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
395	B,6,15	S-520/T	G1	10447-2	AN/TPN-19/AN/TPN-24	F19628-73-C-0298
396	A,1,21,3,8,3,10	S-520/T S-522	G1	10447-3	AN/TPN-19/AN/TPN-24	F19628-73-C-0298
411	B,1,14,5	S-522T	G1	10449-5A	AN/TPN-19	F19628-73-C-0298
412	A,21-B,1,15	S-522T	G1	10449-3A	AN/TPN-19	F19628-73-C-0298
413	B,15,6,10,1	S-522T	G1	10449-9A	AN/TPN-19/OK-235-T	F19628-73-C-0298
414	A,3-B,1	S-522T	G1	10449-1A	AN/TPN-19/OK-235-T	F19628-73-C-0298
415	A,3-B,5,10,18,14	S-522T	G1	10449-7A	AN/TPN-19/OK-235-T	F19628-73-C-0298
416	A,3-B,6,15	S-522T	G1	10449-2A	AN/TPN-19/OK-235-T	F19628-73-C-0298
417	A,3-B,14,15,6	S-522T S-523	G1	10449-8A	AN/TPN-19/OK-235-T	F19628-73-C-0298
431	A,1-B,5,10	S-523T	G1	10449-6B	AN/TPN-19/OK-236-T	F19628-73-C-0298
432		S-523T	G1	10449-3B	AN/TPN-19/OK-236-T	F19628-73-C-0298
433	B,15	S-523T	G1	10449-9B	AN/TPN-19/OK-236-T	F19628-73-C-0298
434	A,1,2-B,10	S-523T	G1	10449-1B	AN/TPN-19(V)2/OK-236-T	F19628-73-C-0298
435	A,3	S-523T	G1	10449-7B	AN/TPN-19	F19628-73-C-0298
436	B,1,5	S-523T	G1	10449-2B	AN/TPN-19/OK-236-T	F19628-73-C-0298
437	A,3,14-B,6,14,10	S-523T S-458	G1	10449-8B	AN/TPN-19/OK-236-T	F19628-73-C-0298
451	B,5,15,10	S-458	G1	1041-4A	AN/MRC-113(V)1/0Z-113	F34601-69-C-2345
452	A,21-B,8,5,1	S-458	G1	1041-3A	AN/MRC-113(V)1/0Z-113	F34601-69-C-2345
453	A,1,21-B,1,5,2,8	S-458	G1	1041-6A	AN/MRC-113(V)1/0Z-19	F34601-69-C-2345
454	A,1-B,1,5	-458	G1	1041-2A	AN/MRC-113(V)1/0Z-19	F34601-69-C-2345
455	A,1	S-458 S-385	G1	1003-24	AN/MRC-113V2/MRC-14	F34601-68-C-1654
467	A,1-B,5	S-385	G1	1003-15	AN/MRC-132/MRC-113(V)	F34601-68-C-1654
468	B,1,6	S-385	G1	1041-18	AN/MRC-132/MRC-113(V)	F34601-69-C-2345
469	A,1-B,2,1,6	S-385	G1	1041-15	AN/MRC-132/MRC-113(V)	F34601-69-C-2345
470	A,1-B,5,9,2,27	S-385	G1	1041-13	AN/MRC-132/MRC-113(V)	F34601-69-C-2345
471	A,1,15,27-B,9	S-385	G1	1041-14	AN/MRC-133/MRC-113(V)	F34601-69-C-2345
472	A,1,21-B,2,5	S-385	G1	1003-6	AN/MRC-132/MRC-113(V)1	F34601-68-C-1654
473	A,2,1-B,2,3,6	S-385	G1	1003-17	AN/MRC-132/MRC-132(V)	F34601-68-C-1654
474	A,1,21-B,1,5	S-385	G1	1003-5	0Z-18/MRC-113(V)2	F34601-68-C-1654
475	A,1,21-B,6,1,5	S-385	G1	1003-18	AN/MRC-132/MRC-113(V)	F34601-68-C-1654
476	A,1,10-B,1	S-385	G1	1003-19	AN/MRC-132/MRC-113(V)	F34601-68-C-1654
477	A,1	S-385 * S-385	G1	1003-14	AN/MRC-132/MRC-113(V)	F34601-68-C-1654
478		* S-385	G1	1003-13	AN/MRC-132/MRC-113(V)	F34601-68-C-1654

C O N T R O N L O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
479	A.21-8.6.5.9.1.2	S-385	G1	1041-7	AN/MCC-114/MRC-113(V)	F34601-69-C-2345
480	A.1-8.6.5.1	S-385	G1	1041-8	AN/MCC-114/MRC-113(V)	F34601-69-C-2345
481	A.1-8.5.9.1	S-385	G1	1041-9	AN/MCC-114/MRC-113(V)	F34601-69-C-2345
482	A.1-8.1.5	S-385	G1	1003-21	MRC-132/MRC-113	F34601-68-C-1654
483	A.1-8.1.5.23	S-385	G1	1003-3	MRC-132/MRC-113	F34601-68-C-1654
484	A.1.10-8.1.6.2.26	S-385	G1	1003-12	MRC-132/MRC-113	F34601-68-C-1654
485	A.1.4-8.1.4	S-385	G1	1003-14	MRC-132/MRC-113	F34601-68-C-1654
		S-348				
488	8.23	S-348	G	119	AN/TSC-58	DAAB05-68-C-1720
489	8.2.5	S-348	D	296	AN/TSC-58	DAAB05-68-C-1726
		S-386				
501	A.1-8.1.5.15	S-386	G1	1003-8	AN/MRC-113(V)2	F34601-68-C-1654
502	A.1-8.1	S-386	G1	1003-7	AN/MRC-113(V)2	F34601-68-C-1654
503	A.1.21-8.1.6.5	S-386	G1	1003-1	AN/MRC-113(V)2	F34601-68-C-1654
504	A.1-8.1	S-386	G1	1003-4	AN/MRC-113(V)2	F34601-68-C-1654
505	A.1-8.2	S-386	G1	1003-9	AN/MRC-113(V)2	F34601-68-C-1654
		S-437				
513	8.1	S-437	G1	10332-3	AN/ULQ-9/AN/ASC-23	F30602-72-C-0398
		S-312				
526	A.3-8.2.1.3	S-312	C		AN/TGC-37V	F34775G1
		S-456				
543	A.1-8.1	S-456	G1	1003-29	AN/MRC-113(V)2/AN/MCC-14	F34601-68-C-1654
		S-414				
556	A.21-8.8.1	S-414	D	30	AN/TSC-38B	FR36039-2-6-01318E
557	A.1.21-8.1.15.27	S-414	D	19	AN/TSC-38B	FR36039-2-6-01318E
558	A.1.21-8.1.5.15.8	S-414	D	6	AN/TSC-38B	FR36039-2-6-01318E
559	A.1.21-8.1	S-414	D	29	AN/TSC-38B	FR36039-2-6-01318E
		S-380				
573	8.1.5	S-380	Y	1184-2		M0027-67-C-0037
574	8.1.5	S-380/G	Y	1091A-1	AN/GRM-86	NOM-73285
		S-362				
587	A.1	S-362	C	6	AN/TCC-22	AF30(602)3940
		S-423				
598	8.5.7	S-423	Y	28-2	AN/TGC-28	F19628-67-C-0394
599	A.1.21-8.1.5.20	S-423	Y	1239-30	AN/TGC-28	F19628-67-C-0394
600	8.1.5.15	S-423	Y	1234-3	AN/TSC-62	F19628-67-C-0394
601	A.1-8.2	S-423		1234-40	AN/TSC-62	F19628-67-C-0394
602		S-423	Y	1234-25	AN/TSC-62	F19628-67-C-0394

R O L O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER	
603	8,2,5	S-423	Y	1234-7	AN/TSC-62	F19628-67-C-0394	
604	A,14,21,27	S-423	Y	1239-25	AN/TGC-27	F19628-67-C-0394	
605	8,5,7,2	S-423	Y	1239-15	AN/TGC-27	F19628-67-C-0394	
606	8,1,5,7	S-423	Y	1239-13	AN/TGC-27	F19628-67-C-0394	
607	A,1,10-8,1,5	S-423	G1	10078-5-1	AN/TGC-26	F19628-67-C-0394	
608	8,1,5,6	* S-423	G1	10078-6-1	AN/TGC-26	F19628-67-C-0394	
609	A,1,16-8,5	* S-423	Y	1259-23	AN/TGC-27	F19628-67-C-0394	
610	A,1-8,1,8	S-423	G1	10078-5-2	AN/TGC-26	F19628-67-C-0394	
611	A,1-8,1,15	S-423	G1	10078-6-2	AN/TGC-26	F19628-67-C-0394	
612	A,22-8,1	S-423	Y	1234-13	AN/TSC-62	F19628-67-C-0394	
613	A,1,4-8,6	S-423	C ₁	G1	10078-9-1	AN/TGC-26	F19628-67-C-0394
614	A,1,4	S-423	C ₂	G1	10078-9-2	AN/TGC-26	F19628-67-C-0394
615	A,4-8,14	S-423	C ₃	G1	10078-11-2	AN/TGC-26	F19628-67-C-0394
616	A,4	S-423	C ₄	G1	10078-10-1	AN/TGC-26	F19628-67-C-0394
617	8,25,5,1	S-423	G1	1239-12	AN/TGC-27	F19628-67-C-0394	
618	A,1-8,6,22,5,19	S-423	Y	1234-6	AN/TSC-62	F19628-67-C-0394	
619	A,1-8,5,1	* S-423	Y	1239-4	AN/TGC-28	F19628-67-C-0394	
		S-556					
621	8,6	S-556/T	C	9428-13	AN/TYQ-14(V)4	F33657-71-C-0856	
622	8,5	S-556/T	C	9428-9	AN/TYQ-14(V)4	F33657-71-C-0856	
623	8,10,1	S-556	C	9428-7	AN/TYQ-14(V)4	F33657-71-C-0856	
624	8,1,10,5,24	S-556/T	C	9428-4	AN/TYQ-14(V)4	F33657-71-C-0856	
625	8,1,6	S-556/T	C	9428-8		F33657-71-C-0856	
626	A,21	S-556	C	9428-6		F33657-71-C-0856	
		S-285					
627	A,10-8,2,3	S-285	C	3575-15	AN/TRC-87	AF19(628)-529	
628	A,5-8,1	S-285	C	3575-2	TRC-87	AF19(628)-529	
629	8,5	S-285	C	3932-5	TRC-87	AF19(623)-4856	
630	A,1-8,5	S-285	C	6225-7	TRC-87B	SOA-34(601)-24966	
		S-517					
638	A,3,4,16,10-8,5	S-517	G1	D-506-58	S-517/G-8	F19628-71-C-0119	
639	A,2-8,5,4,6	S-517	G1	D-506-59	S-517/G-8	F19627-71-C-0119	
640	A,3,4-8,1,5,6	S-517	G1	D-506-57	S-517/G-8	F19628-71-C-0119	
641	A,3-8,6,15	S-517	G1	A-503-27	AN/TMQ-28	F19628-71-C-0119	
642	A,10-8,3,6,19	S-517	G1	D-506-51	S-517/G-8	F19628-71-C-0119	
643	8,5	S-517	C ₁	A-503-23	AN/TMQ-28X	F19628-71-C-0119	
644		S-517	C ₂	G1	A-503-22	AN/TMQ-28X	F19628-71-C-0119

CONDITION STATEMENTS															BASE									
INTERIOR								EXTERIOR																
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	ROOF	SIDES	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL	
4	5	5	5	4	4	N	4	4	4	4	4	3	4	4	4	4	4	4	4	4	1	1	4	ROBINS
4	4	4	4	4	2	N	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	4	4	ROBINS
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	5	3	ROBINS
4	4	4	4	4	4	N	4	4	4	4	3	3	3	3	3	N	4	4	4	4	4	5	3	ROBINS
4	4	2	3	2	4	N	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	3	ROBINS
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	5	3	ROBINS
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	5	3	ROBINS
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	4	N	4	4	4	4	4	5	3	ROBINS
5	5	3	5	5	5	N	4	4	4	4	5	5	4	4	4	N	4	4	4	4	4	5	4	ROBINS
5	4	3	5	5	5	H	4	5	5	5	4	5	4	4	4	N	4	4	4	4	4	5	4	ROBINS
5	6	6	6	4	5	N	5	5	5	5	3	5	5	5	5	N	5	5	5	5	5	5	5	SHAW
5	5	5	2	2	2	Y	2	5	5	5	3	5	5	5	5	N	5	5	5	5	5	5	3	ANG (MASS)
5	3	5	2	5	4	Y	4	4	4	4	4	5	5	5	5	N	5	5	5	5	5	5	5	ANG (MASS)
5	5	5	5	5	5	Y	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	ANG (MASS)
5	5	5	5	5	5	Y	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	ANG (MASS)
4	4	4	4	5	4	N	5	5	5	5	3	5	5	5	5	N	5	5	5	5	5	5	5	ANG (MASS)
4	4	3	5	5	5	N	5	5	5	5	3	4	4	5	5	N	5	5	5	5	5	4	4	ANG (MASS)
3	3	3	3	3	3	N	3	3	3	3	3	5	4	4	5	N	5	5	5	5	5	4	4	ANG (MASS)
							6	N	6	6	6	5	5	5	5	N	5	5	5	5	5	5	5	SHAW
							6	N	6	6	6	6	5	5	5	N	5	5	5	5	5	5	5	SHAW
							6	N	6	6	6	6	5	5	5	N	5	5	5	5	5	5	5	SHAW
							N	6	6	6	6	6	5	5	5	N	5	5	5	5	5	5	5	SHAW
							N	6	5	6	6	6	5	5	5	N	5	5	5	5	5	5	5	SHAW
							N	6	6	6	6	2	5	5	5	N	5	5	5	5	5	5	5	SHAW
5	6	6	6	4	5	N	6	6	6	6	6	5	5	5	5	N	5	5	5	5	5	5	5	SHAW
4	5	5	4	5	5	N	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	4	EGLIN
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	N	6	6	6	6	6	6	5	EGLIN
5	4	5	5	5	5	N	5	5	5	5	5	5	5	5	5	N	6	6	6	6	6	6	5	EGLIN
5	4	3	5	3	5	Y	5	5	5	5	5	5	5	5	5	Y	5	5	5	5	5	5	5	ROBINS
5	5	3	5	5	5	Y	5	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	5	ROBINS
4	3	5	4	3	4	Y	3	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	4	ROBINS
5	5	5	5	5	5	N	5	5	5	5	5	4	5	5	5	N	5	5	5	5	5	5	4	ROBINS
5	5	4	4	4	5	N	5	5	5	5	5	5	5	5	5	N	6	6	6	6	6	6	5	ROBINS
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	N	6	6	6	6	6	6	5	ANG (MASS)
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	5	N	6	6	6	6	6	6	5	ANG (MASS)

C O M M E N T S L O	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
645		S-517	C ₁	G1	B-504-12	AN/TCC-76X-8
646		S-517	C ₂	G1	O-505-36	AN/TCC-76X-8
647		S-517	C ₁	G1	D-506-43	F19628-71-C-0119
648	A,14	S-517	C ₂	G1	D-506-14	F19628-71-C-0119
649	A,3-B,15,3	S-517		G1	108	F19628-71-C-0119
650	B,6	S-517		G1	107	F19628-71-C-0119
651	A,14	S-517	C ₁	G1	B-504-14	AN/TCC-76-8
652		S-517	C ₂	G1	A-503-21	AN/TMQ-28
653	B,15,5,6	S-517		G1	A-503-28	AN/TMQ-28X-8
654	B,5,6	S-517		G1	A-503-29	AN/TMQ-28X
655	A,4,10,8-B,14,6,8	S-517		G1	B-504-17	AN/TCC-76X-8
656	A,20,1-B,6,14	S-517		G1	B-504-15	AN/TCC-76X-8
657	A,2-B,6	S-517		G1	C-505-40	AN/TCC-77-8
		GMS-280				
663		GMS-280		G1	10575-1	DSA700-77-C-8312
664		GMS-280		G1	1028-3	F34601-69-C-1345
665		GMS-280		G1	10575-47	DSA700-77-C-8312
		S-541				
767	B,1,15	S-541	M	0114-1835B	AN/TCC-38(V)	DAAB05-69-C-0114
		S-559				
778	B,1	S-559	C	010	AN/TYQ-5A	N00027-75-C-0052
		S-473				
790	A,3-B,2,3	S-473	Y	A5	STORAGE	N00024-67-C-1485
791	A,1-B,1,5,15	S-473		A1	TYQ-1(V)	N00024-67-C-1485
		S-472				
801	B,15,1	S-472	G1		AN/TYQ-1	N00024-67-C-1485
802	A,1-B,1,7,5	S-472	G1	10256-3	AN/TYA-28	N00024-67-C-1485
803	A,1-B,5,1	S-472	Y	A1	AN/TYQ-1(V)	N00024-67-C-1485
		S-567				
815	B,8,5	S-567	G1	10432-2	ARN-988	N00189-74-C-0372
		S-409				
821	B,1	S-409	G1	10480-8	OY-63T/TPS-43E	F04606-75-C-0070
		S-470				
829		S-470			OW-49/TYA-3	N00024-72-C-1485
		HONEY COMB - 343N *				
910	B,12,11	* 343N730	G0	30		F33657-67-C-0450
911	A,3-B,12	343N730	G0	39		F33657-67-C-0450
912	A,4-B,2,5	343N401	G0	41		F33657-68-C-0566

*See Note on page 66.

CONDITION STATEMENTS																BASE													
INTERIOR								EXTERIOR								BASE													
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, SCREWS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	LEAKAGE	OPENINGS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL			
5	5	5	5	4	5	N	5					6	6		6	6	6	N	6	6	6	6	6	6	6	5	ANG (MASS)		
5	5	5	5	5	5	N	5	5	5	5	5	6	6		6	6	6	N	6	6	6	6	6	6	6	5	ANG (MASS)		
4	4	4	4	3	5	N	5	5	5	5	5	5	5		5	5	5	N	5	5	5	4	5	5	5	4	ANG (MASS)		
5	5	5	5	4	3	N	5					5	5		5	5	5	N	5	5	5	5	5	5	5	4	ANG (MASS)		
5	5	3	5	5	4	Y	5	5	5	5	5	4	4		5	5	5	Y	5	5	5	5	5	5	4	5	ANG (MASS)		
5	5	5	4	5	5	N	5	5	5	5	5	5	5		5	5	5	N	5	5	5	3	5	5	6	5	ANG (MASS)		
4	4	4	4	4	5	N	4	4	4	4	4	4	5		5	5	5	N	5	5	5	5	5	5	5	4	ANG (MASS)		
4	4	4	4	4	4	N	4	4	4	4	4	4	5		5	5	5	N	5	5	5	5	5	5	5	4	ANG (MASS)		
5	5	5	5	5	5	N	5	5	5	5	5	5	5		5	4	4	3	5	4	N	5	5	4	4	4	5	ROBINS	
5	5	5	5	5	5	N	5	5	5	5	5	5	5		5	4	5	5	5	4	N	4	4	4	4	5	5	5	ROBINS
5	4	4	5	5	5	Y	5	5	5	5	5	4	4		5	5	5	N	4	5	3	5	5	5	5	4	ROBINS		
5	5	5	5	5	4	N	5	4	4	4	4	5	5		5	4	5	5	4	N	5	5	5	5	5	5	5	ROBINS	
4	4	4	4	4	5	N	5	4	4	4	4	5	5		5	4	5	5	5	N	5	4	4	5	5	5	5	ROBINS	
6	6	6	6	6	6	N	6	6	6	6	6	6	6		4	4	4	4	4	N	4	4	4	4	4	4	5	BERGSTROM	
															5	5	5	4	4	N	4	4	4	4	4	4	4	KELLY	
7	7	7	7	7	7	N	7	7	7	7	7	7	7		7	7	7	7	N	7	7	7	7	7	7	7	SHAW		
															4	4		5	5	N	5	5	5	5	5	5	4	CHERRY PT.	
															5	4	5		5	5	N	5	5	5	5	5	5	5	CHERRY PT.
															4	3	4	4	4	4	Y	4	4	4	3	3	3	3	CHERRY PT.
3	3	3	3	4	5	N		4	3	4	4	4	4		4	3	4	4	4	4	N	4	4	4	3	3	3	3	CHERRY PT.
5	5	5	5	5	5	N	5	5	5	5	5	5	5		4	3	4	4	4	4	N	4	4	4	4	4	4	4	CHERRY PT.
4	4	4	3	4	4	N	4	4	4	4	4	4	4		4	3	3	4	4	4	N	4	4	4	4	4	4	4	CHERRY PT.
2	2	2	2	4	4	N	4	4	4	4	4	4	4		4	3	4	4	4	N	4	4	4	4	4	5	3	CHERRY PT.	
4	4	4	4	4	4	N	4	4	4	4	4	4	4		4	4	4	4	4	N	4	4	4	4	2	4	4	CHERRY PT.	
5	5	5	5	5	5	N	5	5	5	5	5	5	5		6	6	6	6	6	N	6	6	6	6	6	6	5	EGLIN	
3	3	3	3	3	3	N	3	5	5	5	5	5	5		4	3	3	4	4	4	N	4	4	4	4	5	4	4	CHERRY PT.
5	5	5	5	5	5	N	5	5	5	5	5	5	5		6	6	6	6	6	N	6	6	6	6	6	6	5	SHAW	
5	5	5	5	5	5	Y	5	5	5	5	5	5	5		6	6	6	6	6	N	6	6	6	6	6	6	6	SHAW	
5	5	5	5	5	5	N	5	5	5	5	5	5	5		6	5	6	6	6	N	6	6	6	6	6	6	6	SHAW	

C O D E R U N D	L O D.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
	913	B,5,11	* 343N401	G0	22		F33657-68-C-0566
	914	B,5	343N705	G0	42		F33657-67-C-0450
	915	B,5,11	* 343N205	G0	16		F33657-67-C-1169
	916	B,12,19,15,11	* 343N201	G0	24		F33657-68-C-0566
	917	B,19,11	* 343N750	G0	79		F33657-67-C-1169
	918		343N502	G0	8		F33657-67-C-0450
	919	B,5	343N501	G0	8		F33657-68-C-0422
	920	B,15,19,11	* 343N720	G0	25		F33657-67-C-0450
	921	B,11	* 343N720	G0	15		F33657-67-C-0450
	922	A,1-B,12,19	343N601	G0	13		F33657-68-C-0422
	923	B,11	* 343N705	G0	30		F33657-67-C-0450
	924	B,1,5,27,11	* 343N201	G0	2		F33657-67-C-0450
	925	B,11	* 343N201	G0	84		F33657-67-C-0450
	926	B,11	* 343N201	G0	41		F33657-67-C-0450
	927	B,5,11	* 343N201	G0	31		F33657-67-C-0450
	928	B,7,3	343N201	G0	17		F33657-67-C-0450
	929	B,11	* 343N201	G0	47		F33657-67-C-0450
	930	A,1-B,1,10	343N751	G0	16		F33657-67-C-1169
	931	B,11	* 343N750	G0	24		F33657-67-C-0450
	932	B,1,12,11	* 343N750	G0	31		F33657-67-C-1169
	933	A,10,1	343N750	G0	40		F33657-67-C-0450
	934	B,19,11	* 343N740	G0	6		F33657-67-C-0450
	935	B,1,19	343N790	G0	21		F33657-67-C-1169
	936	A,1,8-B,1,16	343N750	G0	75		F33657-67-C-1169
	937	A,1-B,2,1,3	343N750	G0	76		F33657-67-C-1169
	938	B,1	343N750	G0	86		F33657-69-C-0285
	939	B,16,15,1	343N401	G0	5		F33657-67-C-0450
	940		343N401	G0	45		F33657-69-C-0285
	941	A,4	343N301	G0	46		F33657-69-C-0285
	942	B,1	343N751	G0	7		F33657-67-C-1169
	943	B,11	* 343N730	G0	24		F33657-67-C-0450
	944	A,27-B,19,15	343N730	G0	9		F33657-67-C-0450
	945	B,1	343N710	G0	16		F33657-67-C-0450
	946	A,3-B,1	343N710	G0	49		F33657-69-C-0285
	947	A,16,4	343N720	G0	12		F33657-67-C-0450
	948	B,1	343N601	G0	15		F33657-68-C-0422
	949	B,19,11	* 343N720	G0	38		F33657-67-C-0450
	950		343N501	G0	13		F33657-68-C-0422

C O M M E N T	R E V I D O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
951		A,1-8,1	343N750	G	11		F33657-67-C-0450
952		A,1-8,15	343N750	G	10		F33657-67-C-0450
953			343N201	G	9109		F33657-68-C-0566
954		B,11	* 343N201	G	120		F33657-68-C-0566
955			343N201	G	91		F33657-67-C-1169
956		B,11	* 343N201	G	01		F33657-67-C-0450
957			343N201	G	23		F33657-67-C-0450
958		B,11	* 343N201	G	81		F33657-67-C-0450
959			343N740	G	44		F33657-69-C-0285
960		B,2	343N301	G	30		F33657-68-C-0566
961			343N740	G	43		F33657-69-C-0285
962		B,11	* 343N501	G	14		F33657-68-C-0422
963		B,1	343N201	G	26		F33657-69-C-0285
964		B,1,19	343N730	G	38		F33657-67-C-0450
965		A,3-8,5,11	* 343N201	G	121		F33657-68-C-0566
966		B,11	* 343N201	G	58		F33657-67-C-0450
967			343N201	G	23		F33657-68-C-0566
968		A,1,14-B,1	343N750	G	88		F33657-69-C-0285
969		B,11	* 343N201	G	93		F33657-68-C-0566
970			343N401	G	33		F33657-68-C-0566
971		A,1-8,1,5	343N750	G	78		F33657-67-C-1169
972		A,1-8,2,15,8	343N750	G	81		F33657-67-C-1169
973		B,15,8	343N710	G	48		F33657-69-C-0285
974		B,11	* 343N720	G	30		F33657-67-C-0450
975		B,15,10,5,11	* 343N501	G	15		F33657-68-C-0422
976			343N601	G	17		F33657-68-C-0422
977		A,3	343N720	G	29		F33657-67-C-0450
978		B,11	* 343N740	G	25		F33657-67-C-0450
979		A,3-8,1,15	343N740	G	29		F33657-67-C-0450
980			343N301	G	33		F33657-68-C-0566
981		B,7,1,3	343N751	G	21		F33657-69-C-0285
982		B,15,1	343N301	G	45		F33657-69-C-0285
983			343N201	G	111		F33657-68-C-0566
984		B,11	* 343N201	G	51		F33657-67-C-0450
985			343N401	G	19		F33657-68-C-0566
986		B,11	* 343N201	G	15		F33657-67-C-0450
987		A,1,3,16-B,3,15	343N730	G	41		F33657-67-C-0450
988		A,3,16,20-B,5,1,2,3, 15	343N730	G	28		F33657-67-C-0450
989		B,3,15	343N710	G	19		F33657-67-C-0450

C O N S U L T O.	COMMENTS	SHELTER NOMENCLATURE	M F R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
		S-290				
995	B.5	S-290		14	AN/TRC-96	
		S-544				
1001		S-544		10531-14-12062	GSQ-120	F19628-76-C-0288
		S-556				
1009		S-556		10599-1	TSC-88	DSA700-77-C-8312
		S-546				
1019	B.23	S-546	C ₁	10531-17-12062	GSQ-120(V)1	F19628-76-C-0288
1020		S-546	C ₂	10531-42-0228	GSQ-120(V)1	F19628-76-C-0288
1021		* S-546		10531-38-12063	GSQ-120(V)1	
		GENERAL 407L SYSTEM				
1031	B.15		G1	4	TSQ-91/TYC-10	F19628-75-C-0118
1032	B.2		G1	4	TSQ-91/TYC-10	F19628-75-C-0118
1033			G1	4	TSQ-91/TYC-10	F19628-75-C-0118
1034	A.4-8.4.2		C	1	TSQ-93/0A-8452	F19628-67-C-0154
1035	A.1.3-8.3.1		C	1	TSQ-93/0A-8451	F19628-67-C-0154
1036	B.2.15.16.3		E	10	TSQ-91/TSA-35	F19628-67-C-0154
1037	B.5	*	E	2	TSQ-91/TSA-35	F19628-67-C-0154
1038		*	E	32	TSQ-91/TSA-35	F19628-67-C-0154
1039	A.3.16		E	8	TSQ-91/0A-8446	F19628-67-C-0154
1040			E	11	TSQ-91/0A-8446	F19628-67-C-0154
1041		*	E	9	TSQ-91/0A-8446	F19628-67-C-0154
1042		*	E	4	TSQ-91/0A-8447	F19628-67-C-0154
1043	B.1	*	E	4	TSQ-91/0A-8450	F19628-67-C-0154
1044	B.13		E	2	TSQ-93	F19628-67-C-0154
1045	B.1.13		E	18	TSQ-93/0A-8452	F19628-67-C-0154
1046	A.21-B.1.13		E	3	TSQ-93(V)/0A-8452	F19628-67-C-0154
1047	B.5.15		E	35	TSA-34	F19628-67-C-0154
1048	B.5.15.1		E	34	TSA-34	F19628-67-C-0154
1049			E	8	TSQ-92/0A-8448	F19628-67-C-0154
1050			E		TSQ-92	F19628-67-C-0154
1051	B.5.1.15	C ₁	E	21	TSQ-92/0A-8448	F19628-67-C-0154
1052	B.5.1.15	C ₂	E	22	TSQ-92/0A-8448	F19628-67-C-0154
1053	B.5.1.15	C ₃	E	23	TSQ-92/0A-8448	F19628-67-C-0154
1054	B.1.15	C ₁	E	43	TSA-34	F19628-67-C-0154
1055	B.1.15	C ₂	E	39	TSA-34	F19628-67-C-0154
1056	B.1.15	C ₃	E	8	TSA-34	F19628-67-C-0154

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	COMMENTS	SHELTER NOMENCLATURE	M F. R.	SERIAL NUMBER	SYSTEM NOMENCLATURE	CONTRACT NUMBER
1057		C ₁	E	16	TSA-34	F19628-67-C-0154
1058		C ₂	E	20	TSA-34	F19628-67-C-0154
1059		C ₃	E	23	TSA-34	F19628-67-C-0154
1060		C ₄	E	13	TSA-34	F19628-67-C-0154
1061		C ₅	E	15	TSA-34	F19628-67-C-0154
1062	B,9	C ₆	E	10	TSA-34	F19628-67-C-0154
1063	B,1,5,15		E	12	TSA-35	F19628-67-C-0154
1064	B,1,20		E	22	TSA-35	F19628-67-C-0154
1065	B,1,2		E		TSA-35	F19628-67-C-0154
1066	B,1,5,15		E	24	TSA-34	F19628-67-C-0154
1067	B,13		E	2	TSQ-93(V)/OA-8452	F19628-67-C-0154
1068			E	4	TSQ-93(V)/OA-8451	F19628-67-C-0154
1069			E	6	TSQ-93(V)/OA-8452	F19628-67-C-0154
1070			E	5	TSQ-93(V)/OA-8452	F19628-67-C-0154
1071		C ₁	E	21	TSA-34	F19628-67-C-0154
1072		C ₂	E	22	TSA-34	F19628-67-C-0154
1073		C ₃	E	19	TSQ-91/TSA-34	F19628-67-C-0154
1074		C ₄	E	9	TSA-34	F19628-67-C-0154
1075		C ₅	E	14	TSA-34	F19628-67-C-0154
1076		C ₆	E	16	TSA-34	F19628-67-C-0154
1077			Y	1220-8	Maintenance	F9403-70-C-1016
1078			C		OA-8491/TTC-30	F19628-67-C-0270
1079	B,1,5		C		OA-8489/TTC-30	F19628-67-C-0270
1080	A,14-B,1,7,8	C ₁	C		OA-8489/TTC-30	F19628-67-C-0270
1081	B,1,10	C ₂	C		OA-8489/TTC-30	F19628-67-C-0270

CONDITION STATEMENTS																		BASE				
INTERIOR									EXTERIOR													
PAINT	SIDES	CEILING	FLOOR	SEALS	GASKETS	HINGES	LATCHES	NUTS, BOLTS	RF	PAINT	SIDES	ROOF	FLOOR	SEALS	GASKETS	HINGES	LATCHES	NUTS, BOLTS	SKIPS	JACKS	LIFT POINTS	OVERALL
5	5	5	5	5	5	N	5	5	3	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	4	5	5	5	5	5	N	5	5	5	5	4	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	N	4	4	4	4	4	4	BERGSTROM
4	4	4	4	4	4	N	4	4	4	4	4	4	4	4	N	4	4	4	4	4	4	BERGSTROM
3	4	4	4	4	4	N	4	4	4	4	4	2	4	5	3	5	5	N	5	5	5	BERGSTROM
5	5	5	5	5	5	N	5	5	5	5	5	5	4	4	4	4	4	N	4	4	4	BERGSTROM
4	4	4	4	4	4	N	4	4	4	4	4	4	5	4	4	5	5	N	5	4	4	BERGSTROM
4	4	4	4	4	4	N	4	4	4	4	4	4	5	4	4	5	5	N	5	4	4	BERGSTROM
4	4	4	4	4	4	N	4	4	4	4	4	4	5	4	4	5	5	N	5	4	4	BERGSTROM
5	5	5	5	5	5	N	5	4	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	4	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	4	4	4	4	4	4	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	ANG (RI)
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	BERGSTROM
5	5	5	5	5	5	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	BERGSTROM
4	5	5	5	2	5	N	5	5	5	5	4	4	4	3	4	3	4	Y	4	5	5	SHAW
4	4	4	4	3	4	N	5	5	5	5	5	5	5	5	N	5	5	5	5	5	5	SHAW

MISSION of Rome Air Development Center

RADC plans and executes research, development, test and selected acquisition programs in support of Command, Control Communications and Intelligence (C³I) activities. Technical and engineering support within areas of technical competence is provided to ESD Program Offices (POs) and other ESD elements. The principal technical mission areas are communications, electromagnetic guidance and control, surveillance of ground and aerospace objects, intelligence data collection and handling, information system technology, ionospheric propagation, solid state sciences, microwave physics and electronic reliability, maintainability and compatibility.